

DOCUMENT RESUME

ED 470 960

SE 067 054

AUTHOR Meeks, Ronald L.
TITLE Federal R&D Funding by Budget Function: Fiscal Years 2001-03.
Special Report.
INSTITUTION National Science Foundation, Arlington, VA. Div. of Science
Resources Statistics.
REPORT NO NSF-02-330
PUB DATE 2002-08-00
NOTE 56p.
AVAILABLE FROM National Science Foundation, Div. of Science Resources
Statistics, 4201 Wilson Blvd., Arlington, VA 22230. Tel: 301-
947-2722. For full text:
<http://www.nsf.gov/sbe/srs/stats.htm>.
PUB TYPE Numerical/Quantitative Data (110)
EDRS PRICE EDRS Price MF01/PC03 Plus Postage.
DESCRIPTORS Annual Reports; *Budgets; *Federal Programs; Financial
Support; Full State Funding; Higher Education; *Research and
Development
IDENTIFIERS National Science Foundation

ABSTRACT

This report contains information on the federal funding of research and development (R&D) components of agency programs as proposed for the fiscal year (FY) 2001-2003. Research and development data are classified into the same federal budget function categories as those used in "Budget of the United States Government, Fiscal Year 2001-2003." The report is divided into three sections. Section 1, "Federal R&D Budget Authority by Budget Function" consists of six tables. For the first time, table 1 contains total combined R&D and R&D plant data. Tables 2, 3, and 6 provide an overview of Federal R&D funding in the context of requested total Federal budget authority. Table 4 contains data on Federal R&D funding for national defense and civilian programs in current and constant 1996 dollars for FYs 1955-2003. Table 5 contains data on budget authority for basic research by budget function for FYs 2001-2003. Section 2, "R&D by Specific Budget Function" presents data on R&D activities conducted within each budget function. This section consists of 18 tables that provide a summary for FYs 2001-2003. Section 3, "Historical Tables", presents two historical data series: (1) Federal R&D funding by budget function for FYs 1955-2003; and (2) Federal funding of basic research for FYs 1978-2003. (KHR)

Federal R&D Funding by Budget Function

Fiscal Years 2001-03

Special Report

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

This document has been reproduced as
received from the person or organization
originating it.

Minor changes have been made to
improve reproduction quality.

• Points of view or opinions stated in this
document do not necessarily represent
official OERI position or policy.

Division of Science Resources Statistics
Directorate for Social, Behavioral, and Economic Sciences

National Science Foundation



August 2002

Federal R&D Funding by Budget Function

Fiscal Years 2001–03

Special Report

Ronald L. Meeks, Project Officer

**Division of Science Resources Statistics
Directorate for Social, Behavioral, and Economic Sciences**

National Science Foundation



August 2002

National Science Foundation

Rita R. Colwell

Director

Directorate for Social, Behavioral, and Economic Sciences

Norman M. Bradburn

Director

Division of Science Resources Statistics

Lynda T. Carlson

Mary J. Frase

Division Director

Deputy Director

Ronald S. Fecso

Chief Statistician

Research and Development Statistics Program

John E. Jankowski

Program Director

Division of Science Resources Statistics

The Division of Science Resources Statistics (SRS) fulfills the legislative mandate of the National Science Foundation Act to . . .

provide a central clearinghouse for the collection, interpretation, and analysis of data on scientific and engineering resources and to provide a source of information for policy formulation by other agencies of the Federal Government . . .

To carry out this mandate, SRS designs, supports, and directs periodic surveys as well as a variety of other data collections and research projects. These surveys yield the materials for SRS staff to compile, analyze, and disseminate quantitative information about domestic and international resources devoted to science, engineering, and technology.

If you have any comments or suggestions about this or any other SRS product or report, we would like to hear from you. Please direct your comments to:

National Science Foundation
Division of Science Resources Statistics
4201 Wilson Blvd., Suite 965
Arlington, VA 22230
Telephone: (703) 292-8774
Fax: (703) 290-9092
email: srsweb@nsf.gov

Suggested Citation

National Science Foundation, Division of Science Resources Statistics, *Federal R&D Funding by Budget Function: Fiscal Years 2001–03*, Special Report, NSF 02-330, Project Officer, Ronald L. Meeks (Arlington, VA 20002).

August 2002

SRS data are available through the World Wide Web (<http://www.nsf.gov/sbe/srs/stats.htm>). For more information about obtaining reports, contact paperpubs@nsf.gov or call (301) 947-2722. For NSF's Telephonic Device for the Deaf, dial (703) 292-5090.

ACKNOWLEDGMENTS

This report was prepared by Ronald L. Meeks, Senior Analyst, Research and Development Statistics (RDS) Program, Division of Science Resources Statistics (SRS), National Science Foundation. The statistical tables were prepared under contract by the Directorate for Science and Policy Programs (SPP), American Association for the Advancement of Science (AAAS). Kei Koizumi, Director, R&D Budget and Policy Program, AAAS, worked on this report under the guidance of Albert H. Teich, Director, SPP.

Overall direction was provided by John E. Jankowski, Program Director, RDS. Mary J. Frase, Deputy Division

Director, and Ronald S. Fecso, Chief Statistician, SRS, provided overall guidance and review. Tanya R. Gore and Rolfe W. Larson of the Information and Technology Services Program (ITSP) of SRS provided editing, processing, and final composition of this report. John R. Gawalt, Program Director of ITSP, and his Web team handled electronic publication. Additional text, table, and graphics editing and preparation were provided by Terri S. Smith, RDS.

SRS and AAAS would like to thank the program and budget offices at the agencies that provided information for this report.

CONTENTS

| <i>Section</i> | | <i>Page</i> |
|--|----|-------------|
| Notes to the Reader | | 1 |
| Federal R&D Budget Authority by Budget Function | | 5 |
| Table 1. Federal R&D and R&D plant budget authority, by budget function: fiscal years 2001–03 | 7 | |
| Table 2. Federal R&D budget authority, by budget function: fiscal years 2001–03 | 8 | |
| Table 3. Distribution of total Federal R&D budget authority, by budget function: fiscal years 2001–03 ... | 9 | |
| Table 4. Federally funded R&D for national defense and civilian functions: fiscal years 1955–2003 | 10 | |
| Table 5. Federal budget authority for basic research, by budget function: fiscal years 2001–03 | 12 | |
| Table 6. Federal R&D budget authority as a percentage of total budget authority by budget function: fiscal years 2001–03 | 13 | |
| R&D by Specific Budget Function | | 15 |
| Table 7. Federal R&D budget authority for national defense (050): fiscal years 2001–03 | 17 | |
| Table 8. Total obligational authority for Department of Defense research, development, test, and evaluation (RDT&E) budget: fiscal years 2001–03 | 18 | |
| Table 9. Federal R&D budget authority for health (550): fiscal years 2001–03 | 20 | |
| Table 10. Federal R&D budget authority for the National Institutes of Health (NIH): fiscal years 2001–03 | 21 | |
| Table 11. Federal R&D and R&D plant budget authority for space research and technology (252): fiscal years 2001–03 | 22 | |
| Table 12. Federal R&D budget authority for general science and basic research (251): fiscal years 2001–03 | 23 | |
| Table 13. Federal R&D budget authority for natural resources and environment (300): fiscal years 2001–03 | 24 | |
| Table 14. Federal R&D budget authority for agriculture (350): fiscal years 2001–03 | 25 | |
| Table 15. Federal R&D budget authority for transportation (400): fiscal years 2001–03 | 26 | |
| Table 16. Federal R&D budget authority for energy (270): fiscal years 2001–03 | 27 | |

| | |
|--|----|
| Table 17. Federal R&D budget authority for veterans benefits and services (700): fiscal years 2001–03 | 28 |
| Table 18. Federal R&D budget authority for education, training, employment, and social services (500): fiscal years 2001–03 | 29 |
| Table 19. Federal R&D budget authority for commerce and housing credit (370): fiscal years 2001–03 | 30 |
| Table 20. Federal R&D budget authority for the Agency for International Development (AID) and other international programs (150): fiscal years 2001–03 | 31 |
| Table 21. Federal R&D budget authority for administration of justice (750): fiscal years 2001–03 | 32 |
| Table 22. Federal R&D budget authority for community and regional development (450): fiscal years 2001–03 | 33 |
| Table 23. Federal R&D budget authority for income security (600): fiscal years 2001–03 | 34 |
| Table 24. Federal R&D budget authority for general government (800): fiscal years 2001–03 | 35 |
| Historical Tables | 37 |
| Table 25a. Federal R&D obligations, by selected budget function: fiscal years 1955–60 | 39 |
| Table 25b. Federal R&D obligations, by selected budget function: fiscal years 1961–66 | 40 |
| Table 25c. Federal R&D obligations, by budget function: fiscal years 1967–72 | 41 |
| Table 25d. Federal R&D obligations, by budget function: fiscal years 1973–77 | 42 |
| Table 25e. Federal R&D budget authority, by budget function: fiscal years 1978–83 | 43 |
| Table 25f. Federal R&D budget authority, by budget function: fiscal years 1984–89 | 44 |
| Table 25g. Federal R&D budget authority, by budget function: fiscal years 1990–95 | 45 |
| Table 25h. Federal R&D budget authority, by budget function: fiscal years 1996–2003 | 46 |
| Table 26a. Federal budget authority for basic research, by budget function: fiscal years 1978–83 | 48 |
| Table 26b. Federal budget authority for basic research, by budget function: fiscal years 1984–89 | 49 |
| Table 26c. Federal budget authority for basic research, by budget function: fiscal years 1990–95 | 50 |
| Table 26d. Federal budget authority for basic research, by budget function: fiscal years 1996–2003 | 51 |

NOTES TO THE READER

This annual report contains information on Federal funding of the research and development (R&D) components of agency programs, as proposed by the administration for fiscal year (FY) 2003. R&D data in this report are classified into the same Federal budget function categories used in the *Budget of the United States Government, Fiscal Year 2003*, prepared by the Office of Management and Budget. Proposed FY 2003 funding levels are for budget authority (defined below), which is the basis for initial congressional action. In future *Budget Function* reports, these data will be revised to reflect congressional appropriation and actual program-funding decisions.

Detailed data are included on *preliminary* estimates for Federal funding of R&D in FY 2002 that reflect all past congressional actions, but may be revised, since at the time of report preparation, FY 2002 had not yet been completed. This report also includes detailed data (by subfunction) on actual budget authorizations of R&D by Federal agencies in FY 2001 and aggregate data (by broad function) on actual R&D budget authorizations in FY 2001 and earlier years.

REPORT ORGANIZATION

These notes introduce basic budget terms and concepts used in this report. The rest of the report is divided into three sections:

Federal R&D Budget Authority by Budget Function consists of six tables. Table 1 contains total combined R&D and R&D plant data. Tables 2, 3, and 6 provide an overview of Federal R&D funding in the context of requested total Federal budget authority. Table 4 contains data on Federal R&D funding for national defense and civilian programs in current and constant 1996 dollars for FYs 1955–2003. Table 5 contains data on budget authority for basic research by budget function for FYs 2001–03.

R&D by Specific Budget Function presents data on R&D activities conducted within each budget function. This section consists of 18 tables (tables 7 through 24) providing a summary for FYs 2001–03.

Historical Tables presents two historical data series: (1) Federal R&D funding by budget function for FYs

1955–2003 (tables 25a through 25h) and (2) Federal funding of basic research for FYs 1978–2003 (tables 26a through 26d).

DEFINITIONS

RESEARCH AND DEVELOPMENT

As used in this report, R&D refers to research—both basic and applied—and development activities in the sciences and engineering.

Research and Development activities comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications.

R&D includes those funds for personnel, program supervision, and administrative support directly associated with R&D activities. Expendable or movable equipment needed to conduct R&D—e.g., microscopes or spectrometers—is also included.

Research is systematic study directed toward fuller scientific knowledge or understanding of the subject studied. Research is classified as either basic or applied according to the objective of the sponsoring agency.

- In **basic research**, the objective of the sponsoring agency is to gain fuller knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications toward processes or products in mind.
- In **applied research**, the objective of the sponsoring agency is to gain knowledge or understanding necessary for determining means by which a recognized and specific need may be met.

Development is the systematic use of the knowledge or understanding gained from research directed toward the production of useful materials, devices, systems, or methods, including design, development, and improvement of prototypes and new processes. It excludes quality control, routine product testing, and production.

R&D plant includes the acquisition, design, and construction of, or major repairs or alterations to, all physical facilities for use in R&D activities. Facilities include land,

buildings, and fixed capital equipment. It includes the International Space Station and such fixed facilities as reactors, wind tunnels, and particle accelerators. This report includes data on R&D plant funds. These authorizations are included in tables 1 and 11. All other tables in this report exclude R&D plant and are for R&D authorizations only.

BUDGET AUTHORITY, OBLIGATIONS, AND OUTLAYS

The Federal R&D funding data presented here are, with a few noted exceptions, provided in budget authority. Budget authority is used because it is the initial budget parameter for congressional action on the President's proposed budget. Budget authority imposes a ceiling on obligations and outlays; obligations and outlays flow from budget authority.

- **Budget authority** is the primary source of legal authorization to enter into obligations that will result in outlays. Budget authority is most commonly granted in the form of appropriations by the congressional committees assigned to determine the budget for each function.
- **Obligations** represent the amounts for orders placed, contracts awarded, services received, and similar transactions during a given period, regardless of when the funds were appropriated and when the future payment of money is required.
- **Outlays** represent the amounts for checks issued and cash payments made during a given period, regardless of when the funds were appropriated or obligated.

BUDGET FUNCTIONS

All activities covered by the Federal budget, including R&D, are classified into 20 broad functional categories. The Federal budget total comprises funding for these 20 functions. An agency's activities are not necessarily included in only one function. Instead, the programs of one agency typically are distributed across functions, and each function often includes programs from multiple agencies. No overlap occurs between functions or between the various agency programs within those functions. In a few cases, components of a major national effort are funded through multiple functions, such as the human genome mapping effort, which is funded under the health and general science categories.

Notably, each specific R&D activity is assigned to only one function area, consistent with the official codes used in budget documents, even though the R&D activity may address several functional concerns. For example, except for those of the U.S. Army Corps of Engineers, all R&D activities sponsored by the Department of Defense (DoD) are classified as defense, even though some activities have secondary objectives such as space or health. Moreover, only R&D funded by the Department of Health and Human Services and the Department of Labor is classified in the health function category. Yet some R&D funding, from at least three additional agencies—DoD and the Departments of Energy and Veterans Affairs—has a major health component.

The functional categories and definitions used in this report are the same as those used in the Federal budget, with one exception. R&D activities categorized as general science, space, and technology (function 250) are reported separately here. Subfunction 251 contains R&D activities for general science and basic research, and subfunction 252 contains R&D activities for space research and technology. Not all federally sponsored basic research is categorized in function 251, however; some basic research is included in 12 of the remaining 19 functional categories.

Five Federal budget functions—Medicare (function 570), social security (function 650), net interest (function 900), allowances (function 920), and undistributed offsetting receipts (function 950)—have no R&D components. Consequently, they are not discussed in this report, except where R&D is described as a proportion of total Federal budget authority.

The agency/function crosswalk on the following page lists—by name and function code—the 16 individual R&D functions funded by agencies.

DATA SOURCES

Within the overall Federal budget there is no separately identified R&D budget as such; nor are most appropriations for R&D so labeled except in the case of certain program areas such as defense, energy, health, and environment. Consequently, most funds for R&D are not line items in an agency's budget submission but are included within general program funding. To determine funding for Federal R&D, the Office of Management and Budget (OMB) requires agencies with annual R&D

funding greater than \$10 million to submit data on their R&D programs as part of their annual budget submissions. Specifically, the agencies provide data—reported, in accordance with OMB Circular A-11, MAX Schedule C, “Research and Development Activities”—on funding levels for basic research, applied research, development, R&D facilities, and major equipment for R&D.

Data in this report represent agencies’ best estimates of actual and proposed Federal funding for R&D collected during the period between February and April 2002. These data are based primarily on information provided to OMB by 23 agencies and account for an estimated

99 percent of all federally sponsored R&D activities. Also incorporated in this report is R&D information that became available from the individual agencies after the administration’s budget was prepared and reported in the *Budget of the United States Government*. Such information consists of agency budget justification documents submitted to Congress and supplemental, program-specific information obtained from agency budget and program staff through mid-March 2002. Therefore, budget numbers for individual activities, programs, or agencies may differ slightly from those published in the President’s budget or agency budget documents.

AGENCY/FUNCTION CROSSWALK

| AGENCIES | FUNCTIONS | | | | | | | | | | | | | | |
|--|------------------------|--------------|-------------------------------------|-----------------------|--------------|----------------------|---|-------------------|--|--------------------------------------|-----------------------------|-----------------------------------|--|---------------------------------|-----------------------|
| | National defense (050) | Health (556) | Space research and technology (252) | General science (251) | Energy (270) | Transportation (400) | Natural resources and environment (300) | Agriculture (350) | Education, training, employment, and social services (500) | Veterans benefits and services (700) | International affairs (150) | Commerce and housing credit (370) | Community and regional development (450) | Administration of justice (750) | Income security (600) |
| Agency for International Development | | | | | | | | | | | | | | | |
| Corps of Engineers (Civil) | | | | | | | | ● | | | ● | | | | |
| Dept. of Agriculture | | | | | | | ● | ● | ● | | | | | | |
| Dept. of Commerce | | | | | | ● | | | | | | | | | |
| Dept. of Defense (Military) | ● | | | | | | | | | | | | | | |
| Dept. of Education | | | | | ● | ● | | | ● | | | | | | |
| Dept. of Energy | ● | | | | | | | | | | | | | | |
| Dept. of Health and Human Services | | ● | | | | | | | ● | | | | | | |
| Dept. of Housing and Urban Development | | | ● | | | | | | | | | ● | | | |
| Dept. of Justice | | | | | | | | | | | | | ● | | |
| Dept. of Labor | | ● | | | | | | | ● | | | | | | |
| Dept. of the Interior | | | | | | | ● | | | | | | | | |
| Dept. of the Treasury | | | | | | | | | | | | | | ● | |
| Dept. of Transportation | | | | | | ● | | | | | | | | | |
| Dept. of Veterans Affairs | | | | | | | ● | | | | | | | | |
| Environmental Protection Agency | | | | | ● | | ● | | | | | | | | |
| National Aeronautics and Space Adm. | | | | | ● | | ● | | | | | | | | |
| National Science Foundation | | | | ● | | | ● | | | | | | | | |
| Nuclear Regulatory Commission | | | | | | ● | | | | | | | | | |
| Smithsonian Institution | | | | | | | | | ● | | | | | | |
| Social Security Administration | | | | | | | | | | | | | | ● | |
| Tennessee Valley Authority | | | | | | ● | | | | | | | | | |

KEY: ● = R&D function funded by specified agency.

SOURCE: Agencies’ submission to Office of Management and Budget, Circular No. A-11, Max Schedule C, “Research and Development Activities;” agency budget justification documents; and supplemental data from the agencies’ budget offices.

FEDERAL R&D BUDGET AUTHORITY BY BUDGET FUNCTION

Table 1. Federal R&D and R&D plant budget authority, by budget function: fiscal years 2001–03

| 2003 rank | Budget function | 2001 | 2002 | 2003 | Percent change |
|--------------|--|--------------------------|-------------|----------|----------------|
| | | actual | preliminary | proposed | |
| | | [In millions of dollars] | | | |
| | Total..... | 91,505 | 103,104 | 112,000 | 12.7 |
| 1 | National defense..... | 46,202 | 53,478 | 58,774 | 15.7 |
| 2 | Health..... | 21,023 | 24,123 | 27,502 | 14.7 |
| 3 | Space research and technology..... | 8,951 | 9,297 | 9,839 | 3.9 |
| 4 | General science..... | 6,353 | 6,574 | 6,710 | 3.5 |
| 5 | Natural resources and environment..... | 2,138 | 2,211 | 2,181 | 3.4 |
| 6 | Agriculture..... | 1,826 | 2,013 | 1,824 | 10.2 |
| 7 | Transportation..... | 1,654 | 1,713 | 1,573 | 3.5 |
| 8 | Energy..... | 1,320 | 1,565 | 1,415 | 18.5 |
| 9 | Veterans benefits and services..... | 719 | 761 | 810 | 5.9 |
| 10 | Education, training, employment, and social services..... | 424 | 432 | 501 | 1.9 |
| 11 | Commerce and housing credit..... | 468 | 484 | 494 | 3.4 |
| 12 | International affairs..... | 252 | 268 | 182 | 6.3 |
| 13 | Administration of justice..... | 88 | 98 | 114 | 11.4 |
| 14 | Community & regional development..... | 54 | 48 | 48 | -11.1 |
| 15 | Income security..... | 30 | 37 | 30 | 23.3 |
| 16 | General government..... | 3 | 3 | 3 | 0.0 |

NOTES: Because of rounding, components may not add to the totals. Percent change is derived from unrounded data.

SOURCES: Agencies' submissions to Office of Management and Budget, MAX Schedule C; agency budget justification documents; and supplemental data obtained from the agencies' budget offices.

Table 2. Federal R&D budget authority, by budget function: fiscal years 2001–03

| 2003 rank | Budget function | 2001 | 2002 | 2003 | Percent change | |
|--------------|--|--------|-------------|----------|----------------|---------|
| | | actual | preliminary | proposed | 2001–02 | 2002–03 |
| | Total..... | 86,756 | 98,029 | 107,057 | 13.0 | 9.2 |
| 1 | National defense..... | 45,713 | 52,922 | 58,259 | 15.8 | 10.1 |
| 2 | Health..... | 20,758 | 23,654 | 26,615 | 13.9 | 12.5 |
| 3 | Space research and technology..... | 6,126 | 6,556 | 7,435 | 7.0 | 13.4 |
| 4 | General science..... | 5,468 | 5,717 | 5,890 | 4.6 | 3.0 |
| 5 | Natural resources and environment..... | 2,096 | 2,159 | 2,136 | 3.0 | -1.1 |
| 6 | Agriculture..... | 1,657 | 1,703 | 1,703 | 2.8 | 0.0 |
| 7 | Transportation..... | 1,640 | 1,696 | 1,554 | 3.4 | -8.4 |
| 8 | Energy..... | 1,314 | 1,547 | 1,408 | 17.7 | -9.0 |
| 9 | Veterans benefits and services..... | 719 | 761 | 810 | 5.9 | 6.5 |
| 10 | Education, training, employment, and social services..... | 411 | 417 | 484 | 1.5 | 16.1 |
| 11 | Commerce and housing credit..... | 429 | 444 | 387 | 3.5 | -12.8 |
| 12 | International affairs..... | 252 | 268 | 182 | 6.3 | -32.1 |
| 13 | Administration of justice..... | 88 | 98 | 114 | 11.4 | 16.3 |
| 14 | Community & regional development..... | 54 | 48 | 48 | -11.1 | 0.0 |
| 15 | Income security..... | 30 | 37 | 30 | 23.3 | -18.9 |
| 16 | General government..... | 3 | 3 | 3 | 0.0 | 0.0 |

NOTES: Because of rounding, components may not add to totals. Percent change is derived from unrounded data.

SOURCES: Agencies' submissions to Office of Management and Budget, MAX Schedule C; agency budget justification documents; and supplemental data obtained from agencies' budget offices.

Table 3. Distribution of total Federal R&D budget authority, by budget function: fiscal years 2001–03

| 2003 rank | Budget function | 2001 | 2002 | 2003 |
|------------------|--|--------|-------------|----------|
| | | actual | preliminary | proposed |
| [In percentages] | | | | |
| | Total..... | 100.0 | 100.0 | 100.0 |
| 1 | National defense..... | 52.7 | 54.0 | 54.4 |
| 2 | Health..... | 23.9 | 24.1 | 24.9 |
| 3 | Space research and technology..... | 7.1 | 6.7 | 6.9 |
| 4 | General science..... | 6.3 | 5.8 | 5.5 |
| 5 | Natural resources and environment..... | 2.4 | 2.2 | 2.0 |
| 6 | Agriculture..... | 1.9 | 1.7 | 1.6 |
| 7 | Transportation..... | 1.9 | 1.7 | 1.5 |
| 8 | Energy..... | 1.5 | 1.6 | 1.3 |
| 9 | Veterans benefits and services..... | 0.8 | 0.8 | 0.8 |
| 10 | Education, training, employment, and social services..... | 0.5 | 0.4 | 0.5 |
| 11 | Commerce and housing credit..... | 0.5 | 0.5 | 0.4 |
| 12 | International affairs..... | 0.3 | 0.3 | 0.2 |
| 13 | Administration of justice..... | 0.1 | 0.1 | 0.1 |
| 14 | Community & regional development..... | 0.1 | * | * |
| 15 | Income security..... | * | * | * |
| 16 | General government..... | * | * | * |

NOTE: Because of rounding, components may not add to totals.

KEY: * = Less than one-twentieth of one percent.

SOURCES: Agencies' submissions to Office of Management and Budget, MAX Schedule C; agency budget justification documents; and supplemental data obtained from agencies' budget offices.

Table 4. Federally funded R&D for national defense and civilian functions: fiscal years 1955–2003

Page 1 of 2

| Fiscal year | Current dollars | | | Constant 1996 dollars ¹ | | | Percent of total | |
|--------------------------|-----------------|------------------|--------------------|------------------------------------|------------------|--------------------|------------------|--------------------|
| | Total | National defense | Civilian functions | Total | National defense | Civilian functions | National defense | Civilian functions |
| [In millions of dollars] | | | | | | | | |
| 1955..... | 2,533 | 2,151 | 382 | 12,910 | 10,963 | 1,947 | 84.9 | 15.1 |
| 1956..... | 2,988 | 2,535 | 453 | 14,836 | 12,587 | 2,249 | 84.8 | 15.2 |
| 1957..... | 3,932 | 3,327 | 605 | 18,822 | 15,926 | 2,896 | 84.6 | 15.4 |
| 1958..... | 4,570 | 3,801 | 769 | 21,236 | 17,663 | 3,573 | 83.2 | 16.8 |
| 1959..... | 6,694 | 5,556 | 1,138 | 30,608 | 25,405 | 5,203 | 83.0 | 17.0 |
| 1960..... | 7,552 | 6,107 | 1,445 | 34,141 | 27,608 | 6,533 | 80.9 | 19.1 |
| 1961..... | 9,059 | 7,005 | 2,054 | 40,388 | 31,230 | 9,157 | 77.3 | 22.7 |
| 1962..... | 10,290 | 7,238 | 3,052 | 45,370 | 31,914 | 13,457 | 70.3 | 29.7 |
| 1963..... | 12,495 | 7,764 | 4,731 | 54,373 | 33,786 | 20,587 | 62.1 | 37.9 |
| 1964..... | 14,225 | 7,829 | 6,396 | 61,183 | 33,673 | 27,510 | 55.0 | 45.0 |
| 1965..... | 14,614 | 7,342 | 7,272 | 61,767 | 31,031 | 30,735 | 50.2 | 49.8 |
| 1966..... | 15,320 | 7,536 | 7,784 | 63,384 | 31,179 | 32,205 | 49.2 | 50.8 |
| 1967..... | 16,529 | 8,566 | 7,963 | 66,275 | 34,346 | 31,929 | 51.8 | 48.2 |
| 1968..... | 15,921 | 8,275 | 7,646 | 61,614 | 32,024 | 29,590 | 52.0 | 48.0 |
| 1969..... | 15,641 | 8,356 | 7,285 | 57,908 | 30,937 | 26,971 | 53.4 | 46.6 |
| 1970..... | 15,339 | 7,981 | 7,358 | 53,840 | 28,013 | 25,827 | 52.0 | 48.0 |
| 1971..... | 15,543 | 8,110 | 7,433 | 51,949 | 27,106 | 24,843 | 52.2 | 47.8 |
| 1972..... | 16,496 | 8,902 | 7,594 | 52,669 | 28,423 | 24,246 | 54.0 | 46.0 |
| 1973..... | 16,800 | 9,002 | 7,798 | 51,360 | 27,521 | 23,840 | 53.6 | 46.4 |
| 1974..... | 17,410 | 9,016 | 8,394 | 49,686 | 25,731 | 23,955 | 51.8 | 48.2 |
| 1975..... | 19,039 | 9,679 | 9,360 | 49,235 | 25,030 | 24,205 | 50.8 | 49.2 |
| 1976..... | 20,780 | 10,430 | 10,350 | 50,193 | 25,193 | 25,000 | 50.2 | 49.8 |
| 1977..... | 23,450 | 11,864 | 11,586 | 52,685 | 26,655 | 26,030 | 50.6 | 49.4 |
| 1978..... | 25,976 | 12,899 | 13,077 | 54,617 | 27,122 | 27,496 | 49.7 | 50.3 |
| 1979..... | 28,208 | 13,791 | 14,417 | 54,858 | 26,820 | 28,038 | 48.9 | 51.1 |
| 1980..... | 29,739 | 14,946 | 14,793 | 53,115 | 26,694 | 26,421 | 50.3 | 49.7 |
| 1981..... | 33,735 | 18,413 | 15,322 | 54,925 | 29,979 | 24,946 | 54.6 | 45.4 |
| 1982..... | 36,115 | 22,070 | 14,045 | 54,953 | 33,582 | 21,371 | 61.1 | 38.9 |
| 1983..... | 38,768 | 24,936 | 13,832 | 56,505 | 36,345 | 20,160 | 64.3 | 35.7 |
| 1984..... | 44,214 | 29,287 | 14,927 | 62,151 | 41,168 | 20,983 | 66.2 | 33.8 |
| 1985..... | 49,887 | 33,698 | 16,189 | 67,883 | 45,854 | 22,029 | 67.5 | 32.5 |
| 1986..... | 53,249 | 36,926 | 16,323 | 70,753 | 49,065 | 21,689 | 69.3 | 30.7 |
| 1987..... | 57,069 | 39,152 | 17,917 | 73,799 | 50,630 | 23,170 | 68.6 | 31.4 |
| 1988..... | 59,106 | 40,099 | 19,007 | 74,012 | 50,212 | 23,800 | 67.8 | 32.2 |
| 1989..... | 62,115 | 40,665 | 21,450 | 74,901 | 49,035 | 25,865 | 65.5 | 34.5 |

See explanatory notes and SOURCES at end of table.

Table 4. Federally funded R&D for national defense and civilian functions: fiscal years 1955–2003

Page 2 of 2

| Fiscal year | Current dollars | | | Constant 1996 dollars ¹ | | | Percent of total | |
|-------------|--------------------------|------------------|--------------------|------------------------------------|------------------|--------------------|------------------|--------------------|
| | Total | National defense | Civilian functions | Total | National defense | Civilian functions | National defense | Civilian functions |
| | [In millions of dollars] | | | | | | | |
| 1990..... | 63,781 | 39,925 | 23,856 | 74,121 | 46,397 | 27,723 | 62.6 | 37.4 |
| 1991..... | 65,898 | 39,328 | 26,570 | 73,711 | 43,991 | 29,720 | 59.7 | 40.3 |
| 1992..... | 68,398 | 40,083 | 28,315 | 74,556 | 43,692 | 30,864 | 58.6 | 41.4 |
| 1993 | 69,884 | 41,249 | 28,635 | 74,400 | 43,915 | 30,485 | 59.0 | 41.0 |
| 1994 | 68,331 | 37,764 | 30,566 | 71,207 | 39,354 | 31,853 | 55.3 | 44.7 |
| 1995..... | 68,791 | 37,204 | 31,587 | 70,166 | 37,948 | 32,219 | 54.1 | 45.9 |
| 1996..... | 69,049 | 37,801 | 31,248 | 69,049 | 37,801 | 31,248 | 54.7 | 45.3 |
| 1997..... | 71,653 | 39,591 | 32,062 | 70,283 | 38,834 | 31,449 | 55.3 | 44.7 |
| 1998..... | 73,569 | 39,823 | 33,746 | 71,157 | 38,517 | 32,639 | 54.1 | 45.9 |
| 1999..... | 77,637 | 41,306 | 36,332 | 74,124 | 39,436 | 34,687 | 53.2 | 46.8 |
| 2000..... | 78,664 | 42,580 | 36,084 | 73,586 | 39,832 | 33,755 | 54.1 | 45.9 |
| 2001..... | 86,756 | 45,713 | 41,043 | 79,323 | 41,796 | 37,527 | 52.7 | 47.3 |
| 2002..... | 98,029 | 52,922 | 45,107 | 87,706 | 47,349 | 40,357 | 54.0 | 46.0 |
| 2003..... | 107,057 | 58,259 | 48,798 | 94,091 | 51,203 | 42,888 | 54.4 | 45.6 |

¹ Calculated using fiscal year GDP implicit price deflators with 1996 as the base year.

NOTES: The national defense function includes Department of Defense's military activities and Department of Energy's atomic energy defense program. Civilian functions include all other Federally funded R&D activities. Data for 1955–77 are obligations. Data for 1978–2001 are actual budget authority. Data for 2002 are preliminary estimates of budget authority. Data for 2003 are budget authority proposed by the administration.

SOURCES: Agencies' submissions to Office of Management and Budget, MAX Schedule C; agency budget justification documents; and supplemental data obtained from the agencies' budget offices.

Table 5. Federal budget authority for basic research, by budget function: fiscal years 2001–03

| 2003 rank | Budget function | 2001 | 2002 | 2003 | | |
|--------------|--|--------|--------------------------|----------|----------------|---------|
| | | actual | preliminary | proposed | Percent change | |
| | | | [In millions of dollars] | | 2001–02 | 2002–03 |
| | Total..... | 21,376 | 23,635 | 25,499 | 10.6 | 7.9 |
| 4 | National defense..... | 1,303 | 1,392 | 1,383 | 6.9 | -0.7 |
| 1 | Health..... | 11,642 | 13,193 | 14,379 | 13.3 | 9.0 |
| 3 | Space research and technology..... | 1,695 | 1,967 | 2,361 | 16.0 | 20.1 |
| 2 | General science..... | 5,187 | 5,398 | 5,649 | 4.1 | 4.6 |
| 7 | Natural resources and environment..... | 215 | 220 | 208 | 2.0 | -5.1 |
| 5 | Agriculture..... | 749 | 808 | 831 | 7.9 | 2.8 |
| 12 | Transportation..... | 17 | 13 | 25 | -23.7 | 92.6 |
| 10 | Energy..... | 40 | 68 | 57 | 71.2 | -15.7 |
| 6 | Veterans benefits and services..... | 289 | 329 | 351 | 13.7 | 6.9 |
| 8 | Education, training, employment, and social services..... | 112 | 115 | 117 | 2.7 | 1.7 |
| 9 | Commerce and housing credit..... | 50 | 52 | 73 | 4.0 | 40.4 |
| 11 | International affairs..... | 50 | 53 | 39 | 6.0 | -26.4 |
| 13 | Administration of justice..... | 27 | 27 | 25 | 0.0 | -7.4 |
| – | Community & regional development..... | 0 | 0 | 0 | NA | NA |
| – | Income security..... | 0 | 0 | 0 | NA | NA |
| – | General government..... | 0 | 0 | 0 | NA | NA |

NOTES: Because of rounding, components may not add to totals. Percent change is derived from unrounded data. The order of budget functions is the same as order for Federal R&D budget authority, by budget function shown in table 2.

KEY: NA = Not applicable

SOURCES: Agencies' submissions to Office of Management and Budget, MAX Schedule C; agency budget justification documents; and supplemental data obtained from agencies' budget offices.

Table 6. Federal R&D budget authority as a percentage of total budget authority by budget function: fiscal years 2001–03

| 2003 rank | Budget function | 2001 actual | 2002 preliminary | 2003 proposed |
|-----------|--|-------------|------------------|---------------|
| | All functions conducting R&D..... | 7.5 | 7.9 | 8.0 |
| 4 | National defense..... | 13.9 | 15.1 | 14.7 |
| 5 | Health..... | 11.4 | 11.8 | 11.4 |
| 3 | Space research and technology..... | 45.6 | 46.6 | 52.1 |
| 2 | General science..... | 70.9 | 70.6 | 70.2 |
| 7 | Natural resources and environment..... | 7.0 | 7.0 | 7.1 |
| 6 | Agriculture..... | 5.7 | 5.9 | 7.2 |
| 9 | Transportation..... | 2.4 | 2.6 | 2.4 |
| 1 | Energy ¹ | 782.1 | 252.8 | 271.8 |
| 10 | Veterans benefits and services..... | 1.5 | 1.5 | 1.4 |
| 12 | Education, training, employment, and social services..... | 0.6 | 0.5 | 0.6 |
| 8 | Commerce and housing credit..... | 3.5 | 4.2 | 2.7 |
| 11 | International affairs..... | 1.4 | 1.2 | 0.8 |
| 14 | Administration of justice..... | 0.2 | 0.3 | 0.3 |
| 13 | Community & regional development..... | 0.4 | 0.3 | 0.3 |
| 16 | Income security..... | * | * | * |
| 15 | General government..... | * | * | * |

¹ R&D as percentage of total budget authority is greater than 100 percent because gross budget authority has been reduced by offsetting receipts.

NOTES: Total budget authority includes discretionary and mandatory budget authority, less offsets. The order of budget functions is the same as order for Federal R&D budget authority, by budget function shown in table 2.

KEY: * = Less than one-fiftieth of 1 percent.

SOURCES: Agencies' submissions to Office of Management and Budget (OMB), MAX Schedule C; agency budget justification documents; and supplemental data obtained from agencies' budget offices.

R&D BY SPECIFIC BUDGET FUNCTION

Table 7. Federal R&D budget authority for national defense (050): fiscal years 2001–03

| Funding category and agency | 2001 actual | 2002 preliminary | 2003 proposed | Percent change 2002–03 |
|---|----------------|---------------------|------------------|---------------------------|
| [In millions of dollars] | | | | |
| Total..... | 45,713 | 52,922 | 58,259 | 10.1 |
| Department of Defense—military (051)..... | 42,719 | 49,629 | 54,805 | 10.4 |
| Research, development, test, and evaluation (RDT&E)..... | 41,735 | 48,554 | 54,070 | 11.4 |
| Department of the Army..... | 6,310 | 7,138 | 7,131 | -0.1 |
| Department of the Navy..... | 9,583 | 11,375 | 12,502 | 9.9 |
| Department of the Air Force..... | 14,331 | 14,514 | 17,601 | 21.3 |
| Defense agencies..... | 11,286 | 15,297 | 16,614 | 8.6 |
| Ballistic Missile Defense Organization..... | 4,208 | 6,969 | 6,691 | -4.0 |
| Defense Advanced Research Projects Agency..... | 1,977 | 2,253 | 2,685 | 19.2 |
| Other defense agencies..... | 5,101 | 6,075 | 7,238 | 19.1 |
| Developmental test and evaluation ¹ | 0 | 0 | 0 | NA |
| Operational test and evaluation ¹ | 225 | 230 | 222 | -3.5 |
| Other military funding ² | 984 | 1,075 | 735 | -31.6 |
| Department of Energy—atomic energy defense activities (053)..... | 2,994 | 3,293 | 3,453 | 4.9 |
| Weapons activities ³ | 2,045 | 2,339 | 2,491 | 6.5 |
| Naval reactors development ³ | 608 | 605 | 621 | 2.7 |
| Environmental restoration and waste management ⁴ | 100 | 102 | 92 | -9.6 |
| Intelligence..... | 6 | 6 | 6 | 0.0 |
| Nonproliferation ³ | 184 | 201 | 214 | 6.5 |
| Nuclear safeguards and security..... | 22 | 24 | 20 | -17.5 |
| Fissile materials disposition ³ | 29 | 16 | 9 | -41.3 |

¹Between FY 2000 and FY 2001, the Department of Defense (DoD) combined the developmental test and evaluation account with the operational test and evaluation account.

²This item includes appropriate personnel costs in direct support of conduct of R&D, other appropriations funding certain DoD programs, and medical research funded outside RDT&E accounts.

³These accounts are now part of the National Nuclear Security Administration (NNSA) within the Department of Energy (DOE).

⁴Some environmental management programs shift to general science (250) in FY 2003 (see table 12). FY 2001 and FY 2002 figures adjusted for comparability.

KEY: NA = Not applicable

NOTES: Because of rounding, components may not add to totals. Percent change is derived from unrounded data.

SOURCES: DoD and DOE submissions to Office of Management and Budget (OMB), MAX Schedule C; DoD's "RDT&E Programs (R-1)."

BEST COPY AVAILABLE

Table 8. Total obligational authority for Department of Defense research, development, test, and evaluation (RDT&E) budget: fiscal years 2001–03

Page 1 of 2

| Funding category and agency | 2001 actual | 2002 preliminary | 2003 proposed | Percent change 2002–03 |
|--|----------------|---------------------|------------------|---------------------------|
| (In millions of dollars) | | | | |
| Total RDT&E (budget authority)..... | 41,735 | 48,554 | 54,070 | 11.4 |
| Total RDT&E (TOA) ¹ | 41,748 | 48,505 | 54,070 | 11.5 |
| Basic research..... | 1,287 | 1,376 | 1,365 | -0.8 |
| Department of the Army..... | 205 | 232 | 237 | 2.4 |
| Department of the Navy..... | 385 | 405 | 410 | 1.3 |
| Department of the Air Force..... | 207 | 226 | 219 | -3.2 |
| Defense agencies..... | 490 | 513 | 499 | -2.8 |
| Applied research | 3,674 | 4,086 | 3,780 | -7.5 |
| Department of the Army..... | 815 | 910 | 642 | -29.4 |
| Department of the Navy..... | 636 | 777 | 580 | -25.3 |
| Department of the Air Force..... | 663 | 768 | 698 | -9.2 |
| Defense agencies..... | 1,559 | 1,632 | 1,860 | 14.0 |
| Advanced technology development..... | 3,972 | 4,407 | 4,739 | 7.5 |
| Department of the Army..... | 811 | 910 | 943 | 3.6 |
| Department of the Navy..... | 791 | 870 | 617 | -29.1 |
| Department of the Air Force..... | 564 | 572 | 743 | 29.8 |
| Defense agencies..... | 1,806 | 2,055 | 2,435 | 18.5 |
| Demonstration and validation..... | 8,052 | 10,361 | 10,539 | 1.7 |
| Department of the Army..... | 898 | 878 | 781 | -11.1 |
| Department of the Navy..... | 2,633 | 2,578 | 2,432 | -5.6 |
| Department of the Air Force..... | 1,295 | 960 | 1,458 | 51.8 |
| Defense agencies..... | 3,227 | 5,945 | 5,868 | -1.3 |
| Engineering and manufacturing development..... | 8,441 | 11,018 | 13,550 | 23.0 |
| Department of the Army..... | 1,784 | 2,201 | 2,802 | 27.3 |
| Department of the Navy..... | 2,146 | 3,737 | 5,093 | 36.3 |
| Department of the Air Force..... | 3,355 | 3,606 | 4,320 | 19.8 |
| Defense agencies..... | 1,155 | 1,474 | 1,336 | -9.3 |
| Management support..... | 3,342 | 2,858 | 2,896 | 1.3 |
| Department of the Army..... | 891 | 795 | 806 | 1.4 |
| Department of the Navy..... | 815 | 681 | 688 | 1.0 |
| Department of the Air Force..... | 817 | 652 | 629 | -3.6 |
| Defense agencies..... | 558 | 499 | 551 | 10.5 |
| Developmental test and evaluation ² | 35 | 0 | 0 | NA |
| Operational test and evaluation ² | 225 | 230 | 222 | -3.6 |

See explanatory information and SOURCE at end of table.

Table 8. Total obligational authority for Department of Defense research, development, test, and evaluation (RDT&E) budget: fiscal years 2001–03

Page 2 of 2

| Funding category and agency | 2001 actual | 2002 preliminary | 2003 proposed | Percent change 2002–03 |
|--|----------------|---------------------|------------------|---------------------------|
| [In millions of dollars] | | | | |
| Operational systems development..... | 12,980 | 14,399 | 17,200 | 19.5 |
| Department of the Army..... | 859 | 1,126 | 920 | -18.3 |
| Department of the Navy..... | 2,189 | 2,343 | 2,681 | 14.4 |
| Department of the Air Force..... | 7,412 | 7,762 | 9,536 | 22.8 |
| Defense agencies..... | 2,520 | 3,167 | 4,064 | 28.3 |
| Adjustment for RDT&E budget authority ¹ | -13 | 49 | 0 | -100.0 |

¹ Detailed budget information on DoD's RDT&E activities is available only in total obligational authority (TOA), which is the sum of new budget authority, unobligated budget authority from previous years, and other authorized credits. Adjustment converts TOA to budget authority by subtracting unobligated budget authority from previous years and other authorized credits from TOA.

² Between FY 2000 and FY 2001, the Department of Defense (DoD) combined the developmental test and evaluation (DT&E) account with the operational test and evaluation (OT&E) account. The \$35 million reported for FY 2001 for DoD's DT&E program is obligational authority derived from budget authority appropriated when DT&E and OT&E were separate programs.

NOTES: Because of rounding, components may not add to totals. Percent change is derived from unrounded data.

KEY: NA = Not applicable

SOURCES: Data from DoD, "RDT&E Programs (R-1)." Total RDT&E budget authority data from Budget of the United States Government FY 2003.

Table 9. Federal R&D budget authority for health (550): fiscal years 2001–03

| Funding category and agency | 2001 actual | 2002 preliminary | 2003 proposed | Percent change 2002–03 |
|--|----------------|---------------------|------------------|---------------------------|
| [In millions of dollars] | | | | |
| Total..... | 20,758 | 23,654 | 26,615 | 12.5 |
| Health care services and health research and training (551, 552)..... | 20,616 | 23,494 | 26,455 | 12.6 |
| Department of Health and Human Services (DHHS): | | | | |
| National Institutes of Health..... | 19,561 | 22,346 | 25,578 | 14.5 |
| Centers for Disease Control..... | 544 | 601 | 548 | -8.9 |
| Agency for Healthcare Research and Quality ¹ | 291 | 311 | 263 | -15.4 |
| Centers for Medicare and Medicaid Services ² | 138 | 117 | 28 | -76.1 |
| Health Resources and Services Administration..... | 36 | 53 | 21 | -60.4 |
| Departmental Management | 46 | 65 | 17 | -73.8 |
| Consumer and occupational health and safety (554)..... | 142 | 160 | 160 | 0.0 |
| Food and Drug Administration (DHHS)..... | 136 | 154 | 155 | 0.6 |
| Occupational Safety and Health Administration (Department of Labor)..... | 6 | 6 | 5 | -16.7 |

¹ Formerly the Agency for Health Care Policy and Research, until name changed in FY 2000 under the Healthcare Research and Quality Act of 1999.

² Formerly the Health Care Financing Administration.

NOTES: Because of rounding, components may not add to totals. Percent change is derived from unrounded data.

SOURCES: Agencies' submissions to Office of Management and Budget, MAX Schedule C; and supplemental data obtained from the agencies' budget offices.

Table 10. Federal R&D budget authority for the National Institutes of Health (NIH): fiscal years 2001–03

| Agency | 2001 actual | 2002 preliminary | 2003 proposed | Percent change 2002–03 |
|---|--------------------------|---------------------|------------------|---------------------------|
| | [In millions of dollars] | | | |
| Total..... | 19,561 | 22,346 | 25,578 | 14.5 |
| National Cancer Institute..... | 3,691 | 4,117 | 5,016 | 21.8 |
| National Institute of Allergy and Infectious Diseases..... | 1,998 | 2,494 | 3,744 | 50.1 |
| National Heart, Lung, and Blood Institute..... | 2,222 | 2,490 | 2,649 | 6.4 |
| National Institute of General Medical Sciences..... | 1,379 | 1,556 | 1,667 | 7.1 |
| National Institute of Diabetes and Digestive and Kidney Diseases..... | 1,357 | 1,514 | 1,620 | 7.0 |
| National Institute of Neurological Disorders and Stroke..... | 1,150 | 1,300 | 1,384 | 6.5 |
| National Institute of Mental Health..... | 1,054 | 1,191 | 1,267 | 6.4 |
| National Institute of Child Health and Human Development..... | 946 | 1,080 | 1,153 | 6.8 |
| National Center for Research Resources..... | 738 | 897 | 990 | 10.3 |
| National Institute on Drug Abuse..... | 773 | 870 | 927 | 6.5 |
| National Institute on Aging..... | 765 | 871 | 927 | 6.4 |
| National Institute of Environmental Health Sciences ¹ | 632 | 611 | 651 | 6.6 |
| National Eye Institute..... | 500 | 570 | 606 | 6.4 |
| National Institute of Arthritis and Musculoskeletal and Skin Diseases..... | 385 | 436 | 464 | 6.3 |
| National Human Genome Research Institute..... | 379 | 424 | 451 | 6.1 |
| National Institute on Alcohol Abuse and Alcoholism..... | 331 | 374 | 398 | 6.4 |
| National Institute of Dental and Cranofacial Research..... | 296 | 331 | 352 | 6.4 |
| National Institute on Deafness and Other Communication Disorders..... | 283 | 321 | 341 | 6.3 |
| Office of the Director..... | 200 | 221 | 234 | 5.9 |
| National Center for Minority Health and Health Disparities..... | 123 | 150 | 170 | 13.3 |
| National Library of Medicine..... | 127 | 149 | 164 | 10.0 |
| National Institute of Biomedical Imaging and Bioengineering ² | 0 | 111 | 118 | 6.0 |
| National Institute of Nursing Research..... | 96 | 110 | 117 | 6.1 |
| National Center for Complementary and Alternative Medicine..... | 87 | 102 | 108 | 6.0 |
| John E. Fogarty International Center..... | 50 | 57 | 62 | 9.8 |

¹ Includes funding from Superfund-related transfers and appropriations.

² The National Institute for Biomedical Imaging and Bioengineering (NIBIB) is the newest of the research institutes at NIH. NIBIB is authorized by law (P.L. 106-580) which was signed by President William Clinton on December 29, 2000.

NOTES: Because of rounding, components may not add to totals. Percent change is derived from unrounded data. Excludes non-R&D and R&D facilities components of institute budgets.

Table 11. Federal R&D and R&D plant budget authority for space research and technology (252): fiscal years 2001–03

| Funding category | 2001 actual | 2002 preliminary | 2003 proposed | Percent change 2002–03 |
|---|----------------|---------------------|------------------|---------------------------|
| [In millions of dollars for R&D and R&D plant] | | | | |
| Total..... | 8,951 | 9,297 | 9,839 | 5.8 |
| [In millions of dollars for R&D] | | | | |
| Total..... | 6,126 | 6,556 | 7,435 | 13.4 |
| National Aeronautics and Space Administration (NASA): | | | | |
| Space Station ¹ | 2,128 | 1,722 | 1,492 | -13.3 |
| Other human space flight..... | 734 | 532 | 390 | -26.6 |
| Space science..... | 2,618 | 2,880 | 3,428 | 19.0 |
| Biological and physical research ² | 365 | 828 | 851 | 2.8 |
| Earth science..... | 1,771 | 1,636 | 1,639 | 0.2 |
| Advanced space transportation..... | 1,149 | 1,445 | 1,872 | 29.5 |
| Commercial technology..... | 162 | 164 | 147 | -10.3 |
| Academic programs..... | 133 | 227 | 144 | -36.8 |
| Adjustments ³ | -109 | -136 | -125 | -8.6 |

¹ In FY 2000, NASA reclassified Space Station as a physical asset and Space Station research as equipment and transferred funding for the Space Station program from R&D to R&D plant.

² In FY 2002, NASA transferred R&D plant funds in the Space Station research budget to the biological and physical research enterprise (which also now includes some R&D plant funds), as required by both the Authorization Act (PL 106-391) and the 2002 Appropriations Act (HR 2620).

³ Subtracts non-R&D costs from total budget authority.

NOTES: Includes funds for research and research program management. Total R&D excludes fixed capital equipment costs. Because of rounding, components may not add to totals. Percent change derived from unrounded data.

KEY: NA = Not applicable

SOURCES: National Aeronautics and Space Administration's (NASA's) submissions to Office of Management and Budget, MAX Schedule C; budget justification documents; and supplemental data obtained from the NASA budget and the NASA budget office.

Table 12. Federal R&D budget authority for general science and basic research (251): fiscal years 2001–03

| Funding category and agency | 2001 actual | 2002 preliminary | 2003 proposed | Percent change 2002–03 |
|--|----------------|---------------------|------------------|---------------------------|
| [In millions of dollars] | | | | |
| Total..... | 5,468 | 5,717 | 5,890 | 3.0 |
| National Science Foundation..... | 3,032 | 3,250 | 3,404 | 4.7 |
| Mathematical and physical sciences..... | 854 | 920 | 942 | 2.3 |
| Geosciences..... | 564 | 609 | 691 | 13.4 |
| Biological sciences..... | 486 | 508 | 526 | 3.4 |
| Engineering | 433 | 472 | 488 | 3.3 |
| Computer and information science and engineering..... | 478 | 515 | 527 | 2.3 |
| U.S. polar research programs..... | 282 | 298 | 304 | 2.0 |
| Social, behavioral, and economic sciences..... | 177 | 169 | 196 | 15.9 |
| Education and human resources..... | 785 | 875 | 908 | 3.8 |
| Integrative activities..... | 98 | 107 | 111 | 3.8 |
| Budget authority adjustment ¹ | -1,125 | -1,224 | -1,288 | NA |
| Department of Energy..... | 2,435 | 2,467 | 2,486 | 0.8 |
| High energy physics..... | 559 | 588 | 590 | 0.4 |
| Nuclear physics..... | 308 | 317 | 340 | 7.3 |
| Fusion energy sciences..... | 231 | 241 | 241 | -0.2 |
| Basic energy sciences..... | 629 | 634 | 670 | 5.7 |
| Advanced scientific computing research..... | 156 | 151 | 162 | 7.3 |
| Energy research analyses | 0 | 0 | 0 | NA |
| Small business innovation research ² | 93 | 0 | 0 | NA |
| Biological and environmental research ³ | 459 | 536 | 482 | -9.9 |
| Human genome..... | 85 | 88 | 90 | 2.6 |
| All other research..... | 373 | 448 | 392 | -12.4 |

¹ Budget authority adjustment subtracts costs for research facilities, major equipment support, and other non-R&D costs.

² Department of Energy treats this activity as a budget execution program (i.e., funds are collected from existing appropriations and are not allocated until three quarters through the fiscal year).

³ Some Environmental Management programs (050) shift to general science in FY 2003 (see table 7). FY 2001 and FY 2002 figures adjusted for comparability.

NOTES: Because of rounding, components may not add to totals. Percent change is derived from unrounded data. Not all federally sponsored basic research is categorized in this subfunction 251.

KEY: NA = Not applicable

SOURCES: Agencies' submissions to Office of Management and Budget, MAX Schedule C; budget justification documents; and supplemental data obtained from agencies' budget offices.

Table 13. Federal R&D budget authority for natural resources and environment (300): fiscal years 2001–03

| Funding category and agency | 2001 actual | 2002 preliminary | 2003 proposed | Percent change 2002–03 |
|--|----------------|---------------------|------------------|---------------------------|
| [In millions of dollars] | | | | |
| Total..... | 2,096 | 2,159 | 2,136 | -1.1 |
| Pollution control and abatement (304) | | | | |
| Environmental Protection Agency..... | 574 | 592 | 627 | 5.9 |
| Science and technology..... | 531 | 545 | 514 | -30.4 |
| Superfund..... | 36 | 38 | 111 | 72.8 |
| Leaking underground storage tanks..... | 1 | 1 | 1 | 0.0 |
| Oil spill response research..... | 1 | 1 | 1 | 0.0 |
| Other accounts..... | 4 | 7 | 0 | -100.0 |
| Conservation and land management (302)..... | 388 | 373 | 358 | -4.0 |
| Forest Service (USDA)..... | 340 | 306 | 279 | -8.8 |
| Department of the Interior ¹ | 48 | 67 | 79 | 17.9 |
| Recreational resources (303)..... | 161 | 166 | 164 | -1.1 |
| U.S. Geological Survey ² (Interior)..... | 161 | 166 | 164 | -1.1 |
| National Park Service ³ (Interior)..... | 0 | 0 | 0 | NA |
| Water resources (301)..... | 34 | 37 | 34 | -8.1 |
| Army Corps of Engineers (DoD)..... | 27 | 27 | 27 | 0.0 |
| Bureau of Reclamation (Interior)..... | 7 | 10 | 7 | -30.0 |
| Other natural resources (306)..... | 940 | 991 | 952 | -3.9 |
| U.S. Geological Survey (Interior)..... | 406 | 416 | 377 | -9.4 |
| Geologic and mineral resource surveys and mapping..... | 225 | 233 | 221 | -5.2 |
| Water resources investigations..... | 137 | 140 | 114 | -18.5 |
| National mapping, geography, and survey..... | 43 | 44 | 43 | -2.1 |
| National Oceanic and Atmospheric Administration (Commerce)..... | 534 | 574 | 575 | 0.1 |
| Oceanic and atmospheric research..... | 266 | 290 | 284 | -2.0 |
| Climate and air quality..... | 72 | 74 | 73 | -1.2 |
| All other research..... | 266 | 290 | 284 | -2.0 |
| National Marine Fisheries Service..... | 126 | 122 | 122 | 0.0 |
| National Ocean Service..... | 62 | 61 | 55 | -9.4 |
| National Weather Service..... | 23 | 28 | 28 | 0.0 |
| National Environmental Satellite, Data, and Information Service..... | 13 | 11 | 11 | 1.9 |
| Program support..... | 44 | 63 | 75 | 19.0 |

¹ Includes Bureau of Land Management, Office of Surface Mining and Reclamation, and Minerals Management Service.

² Natural resources research formerly funded by the National Biological Service.

³ In previous years, the National Park Service (NPS) classified several of its programs as R&D. In the FY 2001 budget submission, NPS reclassified all of its activities as non-R&D.

NOTES: Because of rounding, components may not add to totals. Percent change is derived from unrounded data.

SOURCES: Agencies' submissions to Office of Management and Budget, MAX Schedule C; budget justification documents; and supplemental data obtained from agencies' budget offices.

Table 14. Federal R&D budget authority for agriculture (350): fiscal years 2001–03

| Funding category and agency | 2001 actual | 2002 preliminary | 2003 proposed | Percent change 2002–03 |
|--|----------------|---------------------|------------------|---------------------------|
| [In millions of dollars] | | | | |
| Total..... | 1,657 | 1,703 | 1,703 | 0.0 |
| Agricultural research and services (352): | | | | |
| Department of Agriculture | | | | |
| Agricultural Research Service..... | 935 | 1,035 | 1,005 | -2.9 |
| Cooperative State Research, Education, and Extension Service..... | 610 | 554 | 565 | 2.0 |
| National Research Initiative..... | 106 | 120 | 240 | 99.2 |
| Payments under the Hatch Act..... | 180 | 180 | 180 | 0.0 |
| Special research grants..... | 86 | 97 | 3 | -96.6 |
| Initiative for Future Agriculture and Food Systems ¹ | 68 | 0 | 0 | NA |
| Other research programs..... | 170 | 157 | 142 | -9.6 |
| Economic Research Service..... | 71 | 73 | 85 | 16.4 |
| Animal and Plant Health Inspection Service..... | 23 | 25 | 29 | 16.0 |
| National Agricultural Statistics Service..... | 4 | 4 | 4 | 0.0 |
| Agricultural Marketing Service..... | 5 | 5 | 6 | 20.0 |
| Federal Grain Inspection Service..... | 5 | 6 | 7 | 16.7 |
| Foreign Agricultural Service..... | 1 | 1 | 2 | 100.0 |
| Office of the Secretary ¹ | 3 | 0 | 0 | NA |

¹ Mandatory (non-appropriated) program.

NOTES: Because of rounding, components may not add to totals. Percent change is derived from unrounded data.

KEY: NA = Not applicable

SOURCES: United States Department of Agriculture's (USDA's) submission to Office of Management and Budget, MAX Schedule C; budget justification documents; and supplemental data obtained from USDA budget office.

Table 15. Federal R&D budget authority for transportation (400): fiscal years 2001–03

| Funding category and agency | 2001 actual | 2002 preliminary | 2003 proposed | Percent change 2002–03 |
|--|----------------|---------------------|------------------|---------------------------|
| [In millions of dollars] | | | | |
| Total..... | 1,640 | 1,696 | 1,554 | -8.4 |
| Air transportation (402)..... | 1,223 | 1,277 | 1,139 | -10.9 |
| National Aeronautics and Space Administration ¹ | 936 | 935 | 837 | -10.5 |
| Aeronautical research and technology..... | 936 | 935 | 837 | -10.5 |
| Transatmospheric research and technology..... | 0 | 0 | 0 | NA |
| Federal Aviation Administration (DOT)..... | 287 | 342 | 207 | -39.5 |
| Transportation Security Administration (DOT) ² | 0 | 0 | 95 | NA |
| Ground transportation (DOT) (401)..... | 374 | 376 | 366 | -2.7 |
| Federal Highway Administration..... | 268 | 275 | 266 | -3.5 |
| National Highway Traffic Safety Administration..... | 58 | 59 | 59 | 0.5 |
| Federal Railroad Administration..... | 27 | 31 | 30 | -3.8 |
| Federal Transit Administration..... | 8 | 7 | 4 | -40.0 |
| Federal Motor Carrier Safety Administration..... | 12 | 3 | 6 | 119.2 |
| Water transportation (DOT) (403)..... | 22 | 21 | 24 | 13.7 |
| U.S. Coast Guard..... | 22 | 21 | 24 | 13.7 |
| Other transportation (DOT) (407) ³ | 20 | 21 | 25 | 17.0 |

¹ Includes funds for research and research program management.

² New DOT agency created to operate civilian airport security; TSA will take over aviation security R&D funded by FAA in previous years.
FY 2003 figures assume aviation security R&D will be funded at the FY 2002 level.

³ Includes Office of the Secretary and the Research and Special Programs Administration.

NOTES: Because of rounding, components may not add to totals. Percent change is derived from unrounded data.

SOURCES: Agencies' submissions to Office of Management and Budget, MAX Schedule C; and supplemental data obtained from agencies' budget offices.

Table 16. Federal R&D budget authority for energy (270): fiscal years 2001–03

| Funding category and agency | 2001 actual | 2002 preliminary | 2003 proposed | Percent change 2002–03 |
|--|----------------|---------------------|------------------|---------------------------|
| [In millions of dollars] | | | | |
| Total..... | 1,314 | 1,547 | 1,408 | -9.0 |
| Department of Energy..... | 1,232 | 1,456 | 1,310 | -10.0 |
| Fossil energy (271)..... | 350 | 490 | 414 | -15.5 |
| Clean coal technology..... | 0 | 0 | 0 | NA |
| Cooperative R&D..... | 8 | 8 | 6 | -27.2 |
| Petroleum, coal, and gas program..... | 342 | 482 | 408 | -15.3 |
| Energy supply (271) | 368 | 442 | 419 | -5.2 |
| Nuclear energy..... | 44 | 96 | 63 | -34.3 |
| Solar and renewables..... | 323 | 346 | 356 | 2.9 |
| Radioactive waste management (271)..... | 44 | 60 | 64 | 5.7 |
| Energy conservation (272)..... | 470 | 464 | 413 | -10.9 |
| Tennessee Valley Authority (271)..... | 29 | 30 | 30 | 0.0 |
| Nuclear Regulatory Commission (276)..... | 53 | 61 | 68 | 11.5 |

NOTES: Because of rounding, components may not add to totals. Percent change is derived from unrounded data.

KEY: NA = Not applicable

SOURCES: Agencies' submissions to Office of Management and Budget, MAX Schedule C; Department of Energy's budget justification documents; and supplemental data obtained from agencies' budget offices.

Table 17. Federal R&D budget authority for veterans benefits and services (700): fiscal years 2001–03

| Funding category and agency | 2001 actual | 2002 preliminary | 2003 proposed | Percent change 2002–03 |
|--|----------------|---------------------|------------------|---------------------------|
| [In millions of dollars] | | | | |
| Total..... | 719 | 761 | 810 | 6.5 |
| Department of Veterans Affairs Medical and prosthetic research (703)..... | 719 | 761 | 810 | 6.5 |

NOTE: Includes administrative and operating expenses related to agency's research.

SOURCES: Departmental submission to Office of Management and Budget, MAX Schedule C.

Table 18. Federal R&D budget authority for education, training, employment, and social services (500): fiscal years 2001–03

| Funding category and agency | 2001 actual | 2002 preliminary | 2003 proposed | Percent change 2002–03 |
|---|--------------------------|---------------------|------------------|---------------------------|
| | [In millions of dollars] | | | |
| Total..... | 411 | 417 | 484 | 16.1 |
| Research and general education | | | | |
| aids (501, 502, 503)..... | 272 | 270 | 316 | 17.0 |
| Department of Education programs..... | 164 | 159 | 202 | 27.0 |
| Smithsonian Institution programs..... | 108 | 111 | 114 | 2.7 |
| Social services (506)..... | 128 | 133 | 163 | 22.6 |
| Administration for Children and Families (DHHS)..... | 24 | 24 | 54 | 125.0 |
| Administration on Aging (DHHS)..... | 4 | 0 | 0 | NA |
| Rehabilitation services (Education)..... | 100 | 109 | 109 | 0.0 |
| Training and employment (504) (Labor's Employment and Training Admin.)..... | 11 | 14 | 5 | -64.3 |

NOTES: Because of rounding, components may not add to totals. Percent change derived from unrounded data.

SOURCES: Agencies' submissions to Office of Management and Budget, MAX Schedule C; and supplemental data obtained from agencies' budget offices.

Table 19. Federal R&D budget authority for commerce and housing credit (370): fiscal years 2001–03

| Funding category and agency | 2001 actual | 2002 preliminary | 2003 proposed | Percent change 2002–03 |
|--|----------------|---------------------|------------------|---------------------------|
| [In millions of dollars] | | | | |
| Total..... | 429 | 444 | 387 | -12.8 |
| Other advancement of commerce (376) | | | | |
| Department of Commerce | | | | |
| National Institute of Standards and Technology..... | 375 | 421 | 377 | -10.4 |
| Electronics and electrical engineering..... | 39 | 41 | 44 | 6.9 |
| Manufacturing engineering..... | 20 | 20 | 22 | 6.9 |
| Chemical science and technology..... | 33 | 34 | 40 | 15.0 |
| Physics..... | 30 | 31 | 36 | 16.9 |
| Materials science..... | 54 | 56 | 67 | 18.7 |
| Building and fire research..... | 17 | 20 | 19 | -4.3 |
| Computer science and applied math..... | 49 | 54 | 54 | 0.5 |
| Technology assistance..... | 4 | 4 | 4 | 6.9 |
| Research support activities..... | 1 | 2 | 10 | 390.7 |
| Critical infrastructure protection..... | 5 | 0 | 0 | NA |
| Industrial technology services | | | | |
| Advanced Technology Program..... | 123 | 158 | 81 | -48.7 |
| Bureau of the Census..... | 2 | 2 | 3 | 50.0 |
| National Telecommunications and Information Administration..... | 52 | 21 | 7 | -66.7 |

NOTES: Because of rounding, components may not add to totals. Percent change is derived from unrounded data.

KEY: NA = Not applicable

SOURCES: Departmental submission to Office of Management and Budget, MAX Schedule C; and supplemental data obtained from agencies' budget offices.

Table 20. Federal R&D budget authority for the Agency for International Development (AID) and other international programs (150): fiscal years 2001–03

| Funding category and agency | 2001 actual | 2002 preliminary | 2003 proposed | Percent change 2002–03 |
|---|----------------|---------------------|------------------|---------------------------|
| [In millions of dollars] | | | | |
| Total (150)..... | 252 | 268 | 182 | -32.1 |
| Agency for International Development (151)..... | 224 | 243 | 157 | -35.4 |
| International Security Assistance (152)..... | 28 | 25 | 25 | 0.0 |

NOTES: Because of rounding, components may not add to totals. Percent change is derived from unrounded data.

SOURCES: Agency submission to Office of Management and Budget, MAX Schedule C; and supplemental data obtained from agency budget office.

Table 21. Federal R&D budget authority for administration of justice (750): fiscal years 2001–03

| Funding category and agency | 2001 actual | 2002 preliminary | 2003 proposed | Percent change 2002–03 |
|--|----------------|---------------------|------------------|---------------------------|
| [In millions of dollars] | | | | |
| Total..... | 88 | 98 | 114 | 16.3 |
| Department of Justice..... | 88 | 98 | 114 | 16.3 |
| Office of Justice Programs (754)..... | 69 | 64 | 77 | 20.3 |
| Federal Bureau of Investigation (751)..... | 5 | 25 | 28 | 12.0 |
| Federal Prison System (753)..... | 14 | 9 | 9 | 0.0 |

NOTES: Because of rounding, components may not add to totals. Percent change is derived from unrounded data.

SOURCES: Agencies' submissions to Office of Management and Budget, MAX Schedule C; and supplemental data obtained from agencies' budget offices.

Table 22. Federal R&D budget authority for community and regional development (450): fiscal years 2001–03

| Funding category and agency | 2001 actual | 2002 preliminary | 2003 proposed | Percent change 2002–03 |
|--|----------------|---------------------|------------------|---------------------------|
| [In millions of dollars] | | | | |
| Total..... | 54 | 48 | 48 | 0.0 |
| Department of Housing and Urban Development (451)..... | 53 | 47 | 47 | 0.0 |
| Department of Commerce | | | | |
| Economic Development Administration (452)..... | 1 | 1 | 1 | 0.0 |

NOTES: Because of rounding, components may not add to totals. Percent change is derived from unrounded data.

SOURCES: Agencies' submissions to Office of Management and Budget, MAX Schedule C; and supplemental data obtained from agencies' budget offices.

Table 23. Federal R&D budget authority for income security (600): fiscal years 2001–03

| Funding category and agency | 2001 actual | 2002 preliminary | 2003 proposed | Percent change 2002–03 |
|---|----------------|---------------------|------------------|---------------------------|
| [In millions of dollars] | | | | |
| Total..... | 30 | 37 | 30 | -18.9 |
| Social Security Administration ¹ | 30 | 37 | 30 | -18.9 |

¹ Actual functional code is 650, Social Security.

NOTE: Percent change is derived from unrounded data.

SOURCES: Agency submissions to Office of Management and Budget, MAX Schedule C; and supplemental data obtained from agency budget office.

Table 24. Federal R&D budget authority for general government (800): fiscal years 2001–03

| Funding category and agency | 2001 actual | 2002 preliminary | 2003 proposed | Percent change 2002–03 |
|---|--------------------------|---------------------|------------------|---------------------------|
| | [In millions of dollars] | | | |
| Total..... | 3 | 3 | 3 | 0.0 |
| Department of the Treasury Engraving and Printing (803)..... | 3 | 3 | 3 | 0.0 |

NOTE: Percent change is derived from unrounded data.

SOURCES: Agency submissions to Office of Management and Budget, MAX Schedule C; and supplemental data obtained from agency budget office.

HISTORICAL TABLES

Table 25a. Federal R&D obligations, by selected budget function: fiscal years 1955–60

| Budget function | 1955 | 1956 | 1957 | 1958 | 1959 | 1960 |
|---|--------|--------|--------|--------|--------|--------|
| [In millions of dollars] | | | | | | |
| Total..... | 2,533 | 2,988 | 3,932 | 4,570 | 6,694 | 7,522 |
| National defense..... | 2,151 | 2,535 | 3,327 | 3,801 | 5,556 | 6,107 |
| Health..... | 67 | 83 | 140 | 177 | 233 | 305 |
| All other functions..... | 315 | 370 | 465 | 592 | 904 | 1,140 |
| [In millions of constant FY 1996 dollars] | | | | | | |
| Total..... | 12,910 | 14,836 | 18,822 | 21,236 | 30,608 | 34,005 |
| National defense..... | 10,963 | 12,587 | 15,926 | 17,663 | 25,405 | 27,608 |
| Health..... | 341 | 412 | 670 | 822 | 1,065 | 1,379 |
| All other functions..... | 1,606 | 1,837 | 2,226 | 2,751 | 4,134 | 5,154 |

NOTES: Because of rounding, components may not add to totals. GDP implicit price deflators used to convert current dollars to constant 1996 dollars.

SOURCES: Agencies' submissions to Office of Management and Budget, Circular No. A-11, Exhibit 44A, "Research and Development Activities;" and supplemental data obtained from agencies' budget offices.

Table 25b. Federal R&D obligations, by selected budget function: fiscal years 1961-66

| Budget function | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 |
|---|--------|--------|--------|--------|--------|--------|
| [In millions of dollars] | | | | | | |
| Total..... | 9,059 | 10,290 | 12,495 | 14,225 | 14,614 | 15,320 |
| National defense..... | 7,005 | 7,238 | 7,764 | 7,829 | 7,342 | 7,536 |
| Health..... | 405 | 551 | 626 | 728 | 792 | 900 |
| Space research and technology..... | 777 | 1,413 | 2,812 | 4,241 | 4,887 | 4,976 |
| Energy..... | 373 | 448 | 515 | 571 | 585 | 575 |
| General science..... | 137 | 187 | 246 | 277 | 304 | 377 |
| Natural resources and environment..... | 73 | 108 | 120 | 134 | 159 | 189 |
| Transportation..... | 55 | 101 | 142 | 122 | 147 | 251 |
| Agriculture..... | 125 | 136 | 146 | 165 | 195 | 201 |
| All other functions..... | 108 | 107 | 125 | 160 | 203 | 315 |
| [In millions of constant FY 1996 dollars] | | | | | | |
| Total..... | 40,388 | 45,370 | 54,373 | 61,183 | 61,767 | 63,384 |
| National defense..... | 31,230 | 31,914 | 33,786 | 33,673 | 31,031 | 31,179 |
| Health..... | 1,806 | 2,429 | 2,724 | 3,131 | 3,347 | 3,724 |
| Space research and technology..... | 3,464 | 6,230 | 12,237 | 18,241 | 20,655 | 20,588 |
| Energy..... | 1,663 | 1,975 | 2,241 | 2,456 | 2,473 | 2,379 |
| General science..... | 611 | 825 | 1,070 | 1,191 | 1,285 | 1,560 |
| Natural resources and environment..... | 325 | 476 | 522 | 576 | 672 | 782 |
| Transportation..... | 245 | 445 | 618 | 525 | 621 | 1,038 |
| Agriculture..... | 557 | 600 | 635 | 710 | 824 | 832 |
| All other functions..... | 481 | 472 | 544 | 688 | 858 | 1,303 |

NOTES: Because of rounding, components may not add to totals. GDP implicit price deflators used to convert current dollars to constant 1996 dollars.

SOURCES: Agencies' submissions to Office of Management and Budget, Circular No. A-11, Exhibit 44A, "Research and Development Activities," and supplemental data obtained from agencies' budget offices.

Table 25c. Federal R&D obligations, by budget function: fiscal years 1967-72

| Budget function | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 |
|--|--------|--------|--------|--------|--------|--------|
| [In millions of dollars] | | | | | | |
| Total..... | 16,529 | 15,921 | 15,641 | 15,339 | 15,543 | 16,496 |
| National defense..... | 8,566 | 8,275 | 8,356 | 7,981 | 8,110 | 8,902 |
| Health..... | 915 | 1,021 | 1,088 | 1,084 | 1,288 | 1,547 |
| Space research and technology..... | 4,778 | 4,304 | 3,799 | 3,606 | 3,048 | 2,932 |
| Energy..... | 600 | 657 | 597 | 574 | 556 | 574 |
| General science..... | 409 | 437 | 433 | 452 | 513 | 625 |
| Natural resources and environment..... | 320 | 331 | 323 | 340 | 416 | 479 |
| Transportation..... | 380 | 304 | 404 | 535 | 728 | 558 |
| Agriculture..... | 218 | 217 | 221 | 238 | 259 | 294 |
| Education, training, employment, and social services..... | 154 | 166 | 169 | 164 | 215 | 235 |
| International affairs..... | 18 | 17 | 26 | 32 | 32 | 29 |
| Veterans benefits and services..... | 41 | 45 | 50 | 59 | 63 | 69 |
| Commerce and housing credit..... | 43 | 48 | 54 | 79 | 90 | 50 |
| Community and regional development..... | 37 | 44 | 32 | 47 | 65 | 66 |
| Administration of justice..... | * | 1 | 5 | 9 | 10 | 23 |
| Income security..... | 48 | 50 | 78 | 136 | 145 | 106 |
| General government..... | 3 | 5 | 5 | 6 | 7 | 8 |
| [In millions of constant FY 1996 dollars] | | | | | | |
| Total..... | 66,275 | 61,614 | 57,908 | 53,840 | 51,949 | 52,669 |
| National defense..... | 34,346 | 32,024 | 30,937 | 28,013 | 27,106 | 28,423 |
| Health..... | 3,669 | 3,951 | 4,028 | 3,805 | 4,305 | 4,939 |
| Space research and technology..... | 19,158 | 16,656 | 14,065 | 12,657 | 10,187 | 9,361 |
| Energy..... | 2,406 | 2,543 | 2,210 | 2,015 | 1,858 | 1,833 |
| General science..... | 1,640 | 1,691 | 1,603 | 1,587 | 1,715 | 1,996 |
| Natural resources and environment..... | 1,283 | 1,281 | 1,196 | 1,193 | 1,390 | 1,529 |
| Transportation..... | 1,524 | 1,176 | 1,496 | 1,878 | 2,433 | 1,782 |
| Agriculture..... | 874 | 840 | 818 | 835 | 866 | 939 |
| Education, training, employment, and social services..... | 617 | 642 | 626 | 576 | 719 | 750 |
| International affairs..... | 72 | 66 | 96 | 112 | 107 | 93 |
| Veterans benefits and services..... | 164 | 174 | 185 | 207 | 211 | 220 |
| Commerce and housing credit..... | 172 | 186 | 200 | 277 | 301 | 160 |
| Community and regional development..... | 148 | 170 | 118 | 165 | 217 | 211 |
| Administration of justice..... | * | 4 | 19 | 32 | 33 | 73 |
| Income security..... | 192 | 193 | 289 | 477 | 485 | 338 |
| General government..... | 12 | 19 | 19 | 21 | 23 | 26 |

NOTES: Because of rounding, components may not add to totals. GDP implicit price deflators used to convert current dollars to constant 1996 dollars.

KEY: * = Less than \$500,000.

SOURCES: Agencies' submissions to Office of Management and Budget, Circular No. A-11, Exhibit 44A, "Research and Development Activities," and supplemental data obtained from agencies' budget offices.

Table 25d. Federal R&D obligations, by budget function: fiscal years 1973-77

| Budget function | 1973 | 1974 | 1975 | 1976 | 1977 |
|--|--------|--------|--------|--------|--------|
| [In millions of dollars] | | | | | |
| Total..... | 16,800 | 17,410 | 19,039 | 20,780 | 23,450 |
| National defense..... | 9,002 | 9,016 | 9,679 | 10,430 | 11,864 |
| Health..... | 1,585 | 2,069 | 2,170 | 2,351 | 2,629 |
| Space research and technology..... | 2,824 | 2,702 | 2,764 | 3,130 | 2,832 |
| Energy..... | 630 | 759 | 1,363 | 1,649 | 2,562 |
| General science..... | 658 | 749 | 813 | 858 | 974 |
| Natural resources and environment..... | 554 | 516 | 624 | 683 | 753 |
| Transportation..... | 572 | 693 | 635 | 631 | 708 |
| Agriculture..... | 308 | 313 | 342 | 383 | 457 |
| Education, training, employment, and social services..... | 290 | 236 | 239 | 255 | 230 |
| International affairs..... | 28 | 24 | 29 | 42 | 66 |
| Veterans benefits and services..... | 74 | 85 | 95 | 98 | 107 |
| Commerce and housing credit..... | 50 | 51 | 65 | 69 | 71 |
| Community and regional development..... | 78 | 82 | 93 | 109 | 101 |
| Administration of justice..... | 33 | 35 | 44 | 35 | 30 |
| Income security..... | 106 | 71 | 72 | 48 | 55 |
| General government..... | 7 | 9 | 12 | 12 | 13 |
| [In millions of constant FY 1996 dollars] | | | | | |
| Total..... | 51,360 | 49,686 | 49,235 | 50,193 | 52,685 |
| National defense..... | 27,521 | 25,731 | 25,030 | 25,193 | 26,655 |
| Health..... | 4,846 | 5,905 | 5,612 | 5,679 | 5,907 |
| Space research and technology..... | 8,633 | 7,711 | 7,148 | 7,560 | 6,363 |
| Energy..... | 1,926 | 2,166 | 3,525 | 3,983 | 5,756 |
| General science..... | 2,012 | 2,138 | 2,102 | 2,072 | 2,188 |
| Natural resources and environment..... | 1,694 | 1,473 | 1,614 | 1,650 | 1,692 |
| Transportation..... | 1,749 | 1,978 | 1,642 | 1,524 | 1,591 |
| Agriculture..... | 942 | 893 | 884 | 925 | 1,027 |
| Education, training, employment, and social services..... | 887 | 674 | 618 | 616 | 517 |
| International affairs..... | 86 | 68 | 75 | 101 | 148 |
| Veterans benefits and services..... | 226 | 243 | 246 | 237 | 240 |
| Commerce and housing credit..... | 153 | 146 | 168 | 167 | 160 |
| Community and regional development..... | 238 | 234 | 240 | 263 | 227 |
| Administration of justice..... | 101 | 100 | 114 | 85 | 67 |
| Income security..... | 324 | 203 | 186 | 116 | 124 |
| General government..... | 21 | 26 | 31 | 29 | 29 |

NOTES: Because of rounding, components may not add to totals. GDP implicit price deflators used to convert current dollars to constant 1996 dollars.

SOURCES: Agencies' submissions to Office of Management and Budget, Circular No. A-11, Exhibit 44A, "Research and Development Activities;" and supplemental data obtained from agencies' budget offices.

Table 25e. Federal R&D budget authority, by budget function: fiscal years 1978-83

| Budget function | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|--|--------|--------|--------|--------|--------|--------|
| [In millions of dollars] | | | | | | |
| Total..... | 25,976 | 28,208 | 29,739 | 33,735 | 36,115 | 38,768 |
| National defense..... | 12,899 | 13,791 | 14,946 | 18,413 | 22,070 | 24,936 |
| Health..... | 2,968 | 3,401 | 3,694 | 3,871 | 3,869 | 4,298 |
| Space research and technology..... | 2,939 | 3,136 | 2,738 | 3,111 | 2,584 | 2,134 |
| Energy..... | 3,134 | 3,461 | 3,603 | 3,501 | 3,012 | 2,578 |
| General science..... | 1,050 | 1,119 | 1,233 | 1,340 | 1,359 | 1,502 |
| Natural resources and environment..... | 904 | 1,010 | 999 | 1,061 | 965 | 952 |
| Transportation..... | 768 | 798 | 887 | 869 | 791 | 876 |
| Agriculture..... | 501 | 552 | 585 | 659 | 693 | 745 |
| Education, training, employment, and social services..... | 345 | 354 | 468 | 298 | 228 | 189 |
| International affairs..... | 57 | 117 | 125 | 160 | 165 | 177 |
| Veterans benefits and services..... | 111 | 123 | 126 | 143 | 139 | 157 |
| Commerce and housing credit | 77 | 93 | 101 | 106 | 104 | 107 |
| Community and regional development..... | 92 | 127 | 119 | 104 | 63 | 44 |
| Administration of justice..... | 44 | 47 | 45 | 34 | 31 | 37 |
| Income security..... | 67 | 57 | 47 | 43 | 32 | 32 |
| General government..... | 20 | 23 | 22 | 22 | 10 | 6 |
| [In millions of constant FY 1996 dollars] | | | | | | |
| Total..... | 54,617 | 54,858 | 53,115 | 54,925 | 54,953 | 56,505 |
| National defense..... | 27,122 | 26,820 | 26,694 | 29,979 | 33,582 | 36,345 |
| Health..... | 6,241 | 6,614 | 6,598 | 6,303 | 5,887 | 6,264 |
| Space research and technology..... | 6,180 | 6,099 | 4,890 | 5,065 | 3,932 | 3,110 |
| Energy..... | 6,590 | 6,731 | 6,435 | 5,700 | 4,583 | 3,757 |
| General science..... | 2,208 | 2,176 | 2,202 | 2,182 | 2,068 | 2,189 |
| Natural resources and environment | 1,901 | 1,964 | 1,784 | 1,727 | 1,468 | 1,388 |
| Transportation..... | 1,615 | 1,552 | 1,584 | 1,415 | 1,204 | 1,277 |
| Agriculture..... | 1,053 | 1,074 | 1,045 | 1,073 | 1,054 | 1,086 |
| Education, training, employment, and social services..... | 725 | 688 | 836 | 485 | 347 | 275 |
| International affairs..... | 120 | 228 | 223 | 261 | 251 | 258 |
| Veterans benefits and services..... | 233 | 239 | 225 | 233 | 212 | 229 |
| Commerce and housing credit..... | 162 | 181 | 180 | 173 | 158 | 156 |
| Community and regional development..... | 193 | 247 | 213 | 169 | 96 | 64 |
| Administration of justice..... | 93 | 91 | 80 | 55 | 47 | 54 |
| Income security..... | 141 | 111 | 84 | 70 | 49 | 47 |
| General government..... | 42 | 45 | 39 | 36 | 15 | 9 |

NOTES: Because of rounding, components may not add to totals. GDP implicit price deflators used to convert current dollars to constant 1996 dollars.

SOURCES: Agencies' submissions to Office of Management and Budget, Circular No. A-11, Exhibit 44A, "Research and Development Activities;" and supplemental data obtained from agencies' budget offices.

Table 25f. Federal R&D budget authority, by budget function: fiscal years 1984-89

| Budget function | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 |
|--|--------|--------|--------|--------|--------|--------|
| [In millions of dollars] | | | | | | |
| Total..... | 44,214 | 49,887 | 53,249 | 57,069 | 59,106 | 62,115 |
| National defense..... | 29,287 | 33,698 | 36,926 | 39,152 | 40,099 | 40,665 |
| Health..... | 4,779 | 5,418 | 5,565 | 6,556 | 7,076 | 7,773 |
| Space research and technology..... | 2,300 | 2,725 | 2,894 | 3,398 | 3,683 | 4,555 |
| Energy..... | 2,581 | 2,389 | 2,286 | 2,053 | 2,126 | 2,419 |
| General science..... | 1,676 | 1,862 | 1,873 | 2,042 | 2,160 | 2,373 |
| Natural resources and environment..... | 963 | 1,059 | 1,062 | 1,133 | 1,160 | 1,255 |
| Transportation..... | 1,040 | 1,030 | 917 | 908 | 896 | 1,064 |
| Agriculture..... | 762 | 836 | 815 | 822 | 882 | 907 |
| Education, training, employment, and social services..... | 200 | 220 | 248 | 267 | 285 | 347 |
| International affairs..... | 192 | 210 | 211 | 223 | 224 | 279 |
| Veterans benefits and services..... | 218 | 193 | 183 | 215 | 195 | 212 |
| Commerce and housing credit..... | 110 | 114 | 111 | 110 | 122 | 128 |
| Community and regional development..... | 46 | 50 | 88 | 99 | 108 | 74 |
| Administration of justice..... | 24 | 47 | 41 | 49 | 51 | 45 |
| Income security..... | 26 | 21 | 14 | 25 | 23 | 27 |
| General government..... | 8 | 17 | 14 | 17 | 17 | 15 |
| [In millions of constant FY 1996 dollars] | | | | | | |
| Total..... | 62,151 | 67,883 | 70,753 | 73,799 | 74,012 | 74,901 |
| National defense..... | 41,168 | 45,854 | 49,065 | 50,630 | 50,212 | 49,035 |
| Health..... | 6,718 | 7,372 | 7,394 | 8,478 | 8,861 | 9,373 |
| Space research and technology..... | 3,233 | 3,708 | 3,845 | 4,394 | 4,612 | 5,493 |
| Energy..... | 3,628 | 3,251 | 3,037 | 2,655 | 2,662 | 2,917 |
| General science..... | 2,356 | 2,534 | 2,489 | 2,641 | 2,705 | 2,861 |
| Natural resources and environment..... | 1,354 | 1,441 | 1,411 | 1,465 | 1,453 | 1,513 |
| Transportation..... | 1,462 | 1,402 | 1,218 | 1,174 | 1,122 | 1,283 |
| Agriculture..... | 1,071 | 1,138 | 1,083 | 1,063 | 1,104 | 1,094 |
| Education, training, employment, and social services..... | 281 | 299 | 330 | 345 | 357 | 418 |
| International affairs..... | 270 | 286 | 280 | 288 | 280 | 336 |
| Veterans benefits and services..... | 306 | 263 | 243 | 278 | 244 | 256 |
| Commerce and housing credit..... | 155 | 155 | 147 | 142 | 153 | 154 |
| Community and regional development..... | 65 | 68 | 117 | 128 | 135 | 89 |
| Administration of justice..... | 34 | 64 | 54 | 63 | 64 | 54 |
| Income security..... | 37 | 29 | 19 | 32 | 29 | 33 |
| General government..... | 11 | 23 | 19 | 22 | 21 | 18 |

NOTES: Because of rounding, components may not add to totals. GDP implicit price deflators used to convert current dollars to constant 1996 dollars.

SOURCE: Agencies' submissions to Office of Management and Budget, Circular No. A-11, Exhibit 44A, "Research and Development Activities;" and supplemental data obtained from agencies' budget offices.

Table 25g. Federal R&D budget authority, by budget function: fiscal years 1990–95

| Budget function | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 |
|--|--------|--------|--------|--------|--------|--------|
| [In millions of dollars] | | | | | | |
| Total..... | 63,781 | 65,898 | 68,398 | 69,884 | 68,331 | 68,791 |
| National defense..... | 39,925 | 39,328 | 40,061 | 41,249 | 37,764 | 37,204 |
| Health..... | 8,308 | 9,226 | 10,055 | 10,280 | 10,993 | 11,407 |
| Space research and technology..... | 5,765 | 6,511 | 6,744 | 6,988 | 7,414 | 7,916 |
| Energy..... | 2,726 | 2,953 | 3,153 | 2,677 | 2,873 | 2,844 |
| General science..... | 2,410 | 2,635 | 2,659 | 2,691 | 2,712 | 2,794 |
| Natural resources and environment..... | 1,386 | 1,582 | 1,688 | 1,802 | 2,062 | 1,988 |
| Transportation..... | 1,045 | 1,231 | 1,523 | 1,703 | 1,888 | 1,833 |
| Agriculture..... | 950 | 1,052 | 1,155 | 1,152 | 1,193 | 1,194 |
| Education, training, employment, and social services..... | 374 | 433 | 365 | 348 | 373 | 369 |
| International affairs..... | 375 | 378 | 371 | 382 | 254 | 287 |
| Veterans benefits and services..... | 216 | 219 | 245 | 250 | 265 | 257 |
| Commerce and housing credit..... | 140 | 178 | 192 | 220 | 380 | 525 |
| Community and regional development..... | 67 | 88 | 95 | 57 | 68 | 70 |
| Administration of justice..... | 44 | 51 | 51 | 49 | 46 | 59 |
| Income security..... | 33 | 30 | 37 | 36 | 45 | 43 |
| General government..... | 17 | 4 | 4 | * | 0 | 1 |
| [In millions of constant FY 1996 dollars] | | | | | | |
| Total..... | 74,121 | 73,711 | 74,556 | 74,400 | 71,207 | 70,166 |
| National defense..... | 46,397 | 43,991 | 43,668 | 43,915 | 39,354 | 37,948 |
| Health..... | 9,655 | 10,320 | 10,960 | 10,944 | 11,456 | 11,635 |
| Space research and technology..... | 6,700 | 7,282 | 7,351 | 7,440 | 7,726 | 8,074 |
| Energy..... | 3,168 | 3,303 | 3,437 | 2,850 | 2,994 | 2,901 |
| General science..... | 2,801 | 2,947 | 2,898 | 2,864 | 2,826 | 2,849 |
| Natural resources and environment..... | 1,611 | 1,769 | 1,840 | 1,918 | 2,149 | 2,028 |
| Transportation..... | 1,214 | 1,377 | 1,660 | 1,813 | 1,968 | 1,870 |
| Agriculture..... | 1,104 | 1,177 | 1,259 | 1,226 | 1,244 | 1,218 |
| Education, training, employment, and social services..... | 435 | 484 | 398 | 371 | 389 | 376 |
| International affairs..... | 436 | 423 | 404 | 407 | 265 | 293 |
| Veterans benefits and services..... | 251 | 245 | 267 | 267 | 276 | 262 |
| Commerce and housing credit..... | 163 | 200 | 209 | 234 | 396 | 536 |
| Community and regional development..... | 78 | 99 | 104 | 61 | 70 | 71 |
| Administration of justice..... | 51 | 57 | 55 | 52 | 48 | 60 |
| Income security..... | 38 | 33 | 40 | 39 | 47 | 44 |
| General government..... | 20 | 4 | 4 | * | 0 | 1 |

NOTES: Because of rounding, components may not add to totals. GDP implicit price deflators used to convert current dollars to constant FY 1996 dollars.

KEY: * = Less than \$500,000.

SOURCES: Agencies' submissions to Office of Management and Budget, MAX Schedule C; agency budget justification documents; and supplemental data obtained from agencies' budget offices.

Table 25h. Federal R&D budget authority, by budget function: fiscal years 1996–2003

Page 1 of 2

| Budget function | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 preliminary | 2003 proposed |
|--|--------|--------|--------|--------|--------|--------|---------------------|------------------|
| [In millions of dollars] | | | | | | | | |
| Total..... | 69,049 | 71,653 | 73,569 | 77,637 | 78,664 | 86,756 | 98,029 | 107,057 |
| National defense..... | 37,801 | 39,591 | 39,823 | 41,306 | 42,580 | 45,713 | 52,922 | 58,259 |
| Health..... | 11,867 | 12,670 | 13,576 | 15,553 | 17,869 | 20,758 | 23,654 | 26,615 |
| Space research and technology ¹ | 7,844 | 7,844 | 8,198 | 8,245 | 5,363 | 6,126 | 6,556 | 7,435 |
| Energy ² | 2,521 | 2,372 | 948 | 1,131 | 996 | 1,314 | 1,547 | 1,408 |
| General science ² | 2,846 | 2,944 | 4,360 | 4,690 | 4,977 | 5,468 | 5,717 | 5,890 |
| Natural resources and environment..... | 1,802 | 1,886 | 1,855 | 1,842 | 1,999 | 2,096 | 2,159 | 2,136 |
| Transportation..... | 1,795 | 1,785 | 1,833 | 1,725 | 1,636 | 1,640 | 1,696 | 1,554 |
| Agriculture..... | 1,176 | 1,203 | 1,249 | 1,288 | 1,426 | 1,657 | 1,703 | 1,703 |
| Education, training, employment, and social services..... | 331 | 373 | 444 | 403 | 418 | 411 | 417 | 484 |
| International affairs..... | 252 | 190 | 163 | 190 | 200 | 252 | 268 | 182 |
| Veterans benefits and services ³ | 259 | 267 | 587 | 644 | 645 | 719 | 761 | 810 |
| Commerce and housing credit..... | 432 | 409 | 398 | 432 | 406 | 429 | 444 | 387 |
| Community and regional development..... | 50 | 48 | 42 | 59 | 46 | 54 | 48 | 48 |
| Administration of justice..... | 56 | 59 | 72 | 88 | 73 | 88 | 98 | 114 |
| Income security..... | 16 | 9 | 18 | 38 | 25 | 30 | 37 | 30 |
| General government..... | 2 | 2 | 2 | 3 | 6 | 3 | 3 | 3 |
| [In millions of constant FY 1996 dollars] | | | | | | | | |
| Total..... | 69,049 | 70,283 | 71,157 | 74,124 | 73,586 | 79,323 | 87,706 | 94,091 |
| National defense..... | 37,801 | 38,834 | 38,517 | 39,436 | 39,832 | 41,796 | 47,349 | 51,203 |
| Health..... | 11,867 | 12,428 | 13,131 | 14,849 | 16,715 | 18,980 | 21,163 | 23,392 |
| Space research and technology ¹ | 7,844 | 7,694 | 7,929 | 7,872 | 5,017 | 5,601 | 5,865 | 6,534 |
| Energy ² | 2,521 | 2,326 | 917 | 1,080 | 931 | 1,201 | 1,384 | 1,237 |
| General science ² | 2,846 | 2,888 | 4,217 | 4,477 | 4,655 | 4,999 | 5,115 | 5,177 |
| Natural resources and environment..... | 1,802 | 1,850 | 1,794 | 1,758 | 1,870 | 1,916 | 1,932 | 1,877 |
| Transportation..... | 1,795 | 1,751 | 1,773 | 1,647 | 1,531 | 1,499 | 1,517 | 1,365 |
| Agriculture..... | 1,176 | 1,180 | 1,208 | 1,230 | 1,334 | 1,515 | 1,524 | 1,497 |
| Education, training, employment, and social services..... | 331 | 366 | 429 | 385 | 391 | 376 | 373 | 425 |
| International affairs..... | 252 | 186 | 158 | 181 | 187 | 230 | 240 | 160 |
| Veterans benefits and services ³ | 259 | 262 | 568 | 615 | 603 | 657 | 681 | 712 |
| Commerce and housing credit..... | 432 | 401 | 385 | 412 | 380 | 392 | 397 | 340 |

See explanatory notes and SOURCES at end of table.

Table 25h. Federal R&D budget authority, by budget function: fiscal years 1996–03

Page 2 of 2

| Budget function | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 preliminary | 2003 proposed |
|---|------|------|------|------|------|------|---------------------|------------------|
| [In millions of dollars] | | | | | | | | |
| Community and regional development..... | 50 | 47 | 41 | 56 | 43 | 49 | 43 | 42 |
| Administration of justice..... | 56 | 58 | 70 | 84 | 68 | 80 | 88 | 100 |
| Income security..... | 16 | 9 | 17 | 36 | 23 | 27 | 33 | 26 |
| General government..... | 2 | 2 | 2 | 3 | 6 | 3 | 3 | 3 |

¹ In FY 2000, NASA reclassified Space Station as a physical asset and Space Station research as equipment and transferred funding for the Space Station program from R&D to R&D plant (details on NASA data are shown in table 11).

² Beginning in FY 1998, a number of Department of Energy programs were reclassified from energy (270) to general science (251).

³ Beginning in FY 1998, the Department of Veterans Affairs (VA) was required to report medical care support funds as part of VA's total research budgetary resources.

NOTES: Data for 1996–2001 are actual budget authority. Data for 2002 are preliminary estimates, and data for 2003 are proposed based on fiscal year 2003 budget. Because of rounding, components may not add to totals. GDP implicit price deflators used to convert current dollars to constant 1996 dollars.

SOURCES: Agencies' submissions to Office of Management and Budget, MAX Schedule C; agency budget justification documents; and supplemental data obtained from agencies' budget offices.

Table 26a. Federal budget authority for basic research, by budget function: fiscal years 1978-83

| Budget function | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|--|-------|-------|-------|-------|-------|-------|
| [In millions of dollars] | | | | | | |
| Total..... | 3,665 | 4,108 | 4,716 | 5,107 | 5,305 | 6,247 |
| National defense..... | 320 | 365 | 552 | 610 | 696 | 788 |
| Health..... | 1,246 | 1,579 | 1,761 | 1,951 | 1,953 | 2,475 |
| Space research and technology..... | 412 | 440 | 482 | 445 | 434 | 501 |
| Energy..... | 157 | 172 | 200 | 220 | 260 | 320 |
| General science..... | 962 | 1,026 | 1,152 | 1,256 | 1,296 | 1,439 |
| Natural resources and environment..... | 207 | 131 | 136 | 131 | 139 | 156 |
| Transportation..... | 70 | 75 | 79 | 89 | 102 | 117 |
| Agriculture..... | 197 | 222 | 246 | 281 | 295 | 326 |
| Education, training, employment, and social services..... | 57 | 59 | 61 | 66 | 78 | 70 |
| International affairs..... | * | 0 | 0 | 12 | 10 | 10 |
| Veterans benefits and services..... | 9 | 10 | 14 | 15 | 13 | 14 |
| Commerce and housing credit..... | 9 | 10 | 15 | 17 | 17 | 19 |
| Community and regional development..... | 8 | 8 | 8 | 5 | 7 | 6 |
| Administration of justice..... | 10 | 10 | 9 | 5 | 4 | 4 |
| Income security..... | 2 | 1 | 1 | 3 | 0 | 0 |
| General government..... | 0 | * | * | 3 | 2 | 3 |
| [In millions of constant FY 1996 dollars] | | | | | | |
| Total..... | 7,706 | 7,989 | 8,423 | 8,315 | 8,072 | 9,105 |
| National defense..... | 673 | 710 | 986 | 993 | 1,059 | 1,149 |
| Health..... | 2,620 | 3,071 | 3,145 | 3,176 | 2,972 | 3,607 |
| Space research and technology..... | 866 | 856 | 861 | 725 | 660 | 730 |
| Energy..... | 330 | 335 | 357 | 358 | 396 | 466 |
| General science..... | 2,023 | 1,995 | 2,058 | 2,045 | 1,972 | 2,097 |
| Natural resources and environment..... | 435 | 255 | 243 | 213 | 212 | 227 |
| Transportation..... | 147 | 146 | 141 | 145 | 155 | 171 |
| Agriculture..... | 414 | 432 | 439 | 458 | 449 | 475 |
| Education, training, employment, and social services..... | 120 | 115 | 109 | 107 | 119 | 102 |
| International affairs..... | * | 0 | 0 | 20 | 15 | 15 |
| Veterans benefits and services..... | 19 | 19 | 25 | 24 | 20 | 20 |
| Commerce and housing credit..... | 19 | 19 | 27 | 28 | 26 | 28 |
| Community and regional development..... | 17 | 16 | 14 | 8 | 11 | 9 |
| Administration of justice..... | 21 | 19 | 16 | 8 | 6 | 6 |
| Income security..... | 4 | 2 | 2 | 5 | 0 | 0 |
| General government..... | 0 | * | * | 5 | 3 | 4 |

NOTES: Because of rounding, components may not add to totals. GDP implicit price deflators used to convert current dollars to constant 1996 dollars.

KEY: * = Less than \$500,000.

SOURCES: Agencies' submissions to Office of Management and Budget, Circular No. A-11, Exhibit 44A, "Research and Development Activities;" agency budget justification documents; and supplemental data obtained from agencies' budget offices.

Table 26b. Federal budget authority for basic research, by budget function: fiscal years 1984-89

| Budget function | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 |
|--|-------|--------|--------|--------|--------|--------|
| [In millions of dollars] | | | | | | |
| Total..... | 7,072 | 7,810 | 8,193 | 9,021 | 9,553 | 10,648 |
| National defense..... | 845 | 856 | 960 | 900 | 905 | 965 |
| Health..... | 2,813 | 3,243 | 3,324 | 3,851 | 4,087 | 4,413 |
| Space research and technology..... | 646 | 498 | 737 | 843 | 944 | 1,099 |
| Energy..... | 365 | 428 | 456 | 511 | 571 | 703 |
| General science..... | 1,606 | 1,779 | 1,795 | 1,942 | 2,061 | 2,265 |
| Natural resources and environment..... | 192 | 206 | 204 | 206 | 210 | 331 |
| Transportation..... | 125 | 255 | 184 | 231 | 197 | 287 |
| Agriculture..... | 353 | 406 | 390 | 397 | 428 | 433 |
| Education, training, employment, and social services..... | 77 | 86 | 83 | 78 | 83 | 92 |
| International affairs..... | 3 | 4 | 5 | 3 | 3 | 3 |
| Veterans benefits and services..... | 15 | 15 | 15 | 17 | 17 | 16 |
| Commerce and housing credit..... | 20 | 23 | 26 | 26 | 28 | 29 |
| Community and regional development..... | 5 | 6 | 6 | 4 | 7 | 3 |
| Administration of justice..... | 5 | 4 | 5 | 8 | 8 | 7 |
| Income security..... | 0 | 0 | 0 | 0 | 0 | 0 |
| General government..... | 3 | 4 | 5 | 4 | 5 | 3 |
| [In millions of constant FY 1996 dollars] | | | | | | |
| Total..... | 9,941 | 10,627 | 10,886 | 11,666 | 11,962 | 12,840 |
| National defense..... | 1,188 | 1,165 | 1,276 | 1,164 | 1,133 | 1,164 |
| Health..... | 3,954 | 4,413 | 4,417 | 4,980 | 5,118 | 5,321 |
| Space research and technology..... | 908 | 678 | 979 | 1,090 | 1,182 | 1,325 |
| Energy..... | 513 | 582 | 606 | 661 | 715 | 848 |
| General science..... | 2,258 | 2,421 | 2,385 | 2,511 | 2,581 | 2,731 |
| Natural resources and environment..... | 270 | 280 | 271 | 266 | 263 | 399 |
| Transportation..... | 176 | 347 | 244 | 299 | 247 | 346 |
| Agriculture..... | 496 | 552 | 518 | 513 | 536 | 522 |
| Education, training, employment, and social services..... | 108 | 117 | 110 | 101 | 104 | 111 |
| International affairs..... | 4 | 5 | 7 | 4 | 4 | 4 |
| Veterans benefits and services..... | 21 | 20 | 20 | 22 | 21 | 19 |
| Commerce and housing credit..... | 28 | 31 | 35 | 34 | 35 | 35 |
| Community and regional development..... | 7 | 8 | 8 | 5 | 9 | 4 |
| Administration of justice..... | 7 | 5 | 7 | 10 | 10 | 8 |
| Income security..... | 0 | 0 | 0 | 0 | 0 | 0 |
| General government..... | 4 | 5 | 7 | 5 | 6 | 4 |

NOTES: Because of rounding, components may not add to totals. GDP implicit price deflators used to convert current dollars to constant 1996 dollars.

SOURCES: Agencies' submissions to Office of Management and Budget, Circular No. A-11, Exhibit 44A, "Research and Development Activities;" agency budget justification documents; and supplemental data obtained from agencies' budget offices.

Table 26c. Federal budget authority for basic research, by budget function: fiscal years 1990–95

| Budget function | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 |
|--|--------|--------|--------|--------|--------|--------|
| [In millions of dollars] | | | | | | |
| Total..... | 11,288 | 12,405 | 12,973 | 13,440 | 13,552 | 13,772 |
| National defense..... | 964 | 1,188 | 1,147 | 1,323 | 1,174 | 1,181 |
| Health..... | 4,661 | 5,021 | 5,506 | 5,700 | 5,889 | 6,068 |
| Space research and technology..... | 1,389 | 1,479 | 1,499 | 1,588 | 1,796 | 1,614 |
| Energy..... | 761 | 878 | 921 | 917 | 921 | 930 |
| General science..... | 2,306 | 2,526 | 2,532 | 2,553 | 2,542 | 2,622 |
| Natural resources and environment..... | 336 | 389 | 383 | 376 | 224 | 187 |
| Transportation..... | 242 | 246 | 266 | 238 | 220 | 389 |
| Agriculture..... | 456 | 486 | 528 | 553 | 567 | 565 |
| Education, training, employment, and social services..... | 106 | 115 | 118 | 121 | 145 | 153 |
| International affairs..... | 4 | 6 | 6 | 8 | 6 | 0 |
| Veterans benefits and services..... | 16 | 16 | 16 | 16 | 16 | 16 |
| Commerce and housing credit..... | 31 | 39 | 35 | 34 | 38 | 35 |
| Community and regional development..... | 3 | 10 | 11 | 10 | 9 | 3 |
| Administration of justice..... | 9 | 6 | 5 | 5 | 5 | 9 |
| Income security..... | 0 | 0 | 0 | 0 | 0 | 0 |
| General government..... | 3 | 0 | 0 | 0 | 0 | 0 |
| [In millions of constant FY 1996 dollars] | | | | | | |
| Total..... | 13,118 | 13,876 | 14,141 | 14,308 | 14,123 | 14,047 |
| National defense..... | 1,120 | 1,329 | 1,250 | 1,408 | 1,224 | 1,205 |
| Health..... | 5,417 | 5,616 | 6,002 | 6,068 | 6,137 | 6,189 |
| Space research and technology..... | 1,614 | 1,654 | 1,634 | 1,690 | 1,872 | 1,647 |
| Energy..... | 884 | 982 | 1,004 | 976 | 960 | 949 |
| General science..... | 2,680 | 2,826 | 2,760 | 2,717 | 2,649 | 2,675 |
| Natural resources and environment..... | 390 | 435 | 417 | 400 | 233 | 190 |
| Transportation..... | 281 | 275 | 290 | 254 | 229 | 397 |
| Agriculture..... | 530 | 544 | 576 | 589 | 591 | 576 |
| Education, training, employment, and social services..... | 123 | 129 | 129 | 129 | 151 | 156 |
| International affairs..... | 5 | 7 | 7 | 9 | 6 | 0 |
| Veterans benefits and services..... | 19 | 18 | 17 | 17 | 17 | 16 |
| Commerce and housing credit..... | 36 | 44 | 38 | 37 | 40 | 36 |
| Community and regional development..... | 3 | 11 | 12 | 11 | 9 | 3 |
| Administration of justice..... | 10 | 7 | 5 | 5 | 6 | 9 |
| Income security..... | 0 | 0 | 0 | 0 | 0 | 0 |
| General government..... | 3 | 0 | 0 | 0 | 0 | 0 |

NOTES: Because of rounding, components may not add to totals. GDP implicit price deflators used to convert current dollars to constant 1996 dollars.

SOURCES: Agencies' submissions to Office of Management and Budget, MAX Schedule C; agency budget justification documents; and supplemental data obtained from agencies' budget offices.

Table 26d. Federal budget authority for basic research, by budget function: fiscal years 1996–03

Page 1 of 2

| Budget function | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 preliminary | 2003 proposed |
|--|--------|--------|--------|--------|--------|--------|---------------------|------------------|
| [In millions of dollars] | | | | | | | | |
| Total..... | 14,442 | 14,961 | 15,523 | 17,433 | 19,470 | 21,376 | 23,635 | 25,499 |
| National defense..... | 1,165 | 1,090 | 1,067 | 1,110 | 1,184 | 1,303 | 1,392 | 1,383 |
| Health..... | 6,395 | 6,852 | 7,356 | 8,634 | 10,099 | 11,642 | 13,193 | 14,379 |
| Space research and technology..... | 1,685 | 1,653 | 1,610 | 1,667 | 1,616 | 1,695 | 1,967 | 2,361 |
| Energy ¹ | 1,182 | 1,288 | 34 | 36 | 36 | 40 | 68 | 57 |
| General science ¹ | 2,662 | 2,753 | 4,121 | 4,464 | 4,722 | 5,187 | 5,398 | 5,649 |
| Natural resources and environment..... | 147 | 153 | 145 | 142 | 146 | 215 | 220 | 208 |
| Transportation..... | 456 | 420 | 411 | 358 | 542 | 17 | 13 | 25 |
| Agriculture..... | 547 | 548 | 571 | 602 | 651 | 749 | 808 | 831 |
| Education, training, employment, and social services..... | 140 | 142 | 133 | 99 | 107 | 112 | 115 | 117 |
| International affairs..... | 2 | 2 | 1 | 0 | 42 | 50 | 53 | 39 |
| Veterans benefits and services ² | 13 | 14 | 23 | 263 | 266 | 289 | 329 | 351 |
| Commerce and housing credit..... | 37 | 34 | 35 | 41 | 39 | 50 | 52 | 73 |
| Community and regional development..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Administration of justice..... | 12 | 13 | 16 | 18 | 20 | 27 | 27 | 25 |
| Income security..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| General government..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| [In millions of constant FY 1996 dollars] | | | | | | | | |
| Total..... | 14,442 | 14,675 | 15,014 | 16,644 | 18,213 | 19,544 | 21,146 | 22,411 |
| National defense..... | 1,165 | 1,069 | 1,032 | 1,059 | 1,107 | 1,191 | 1,246 | 1,215 |
| Health..... | 6,395 | 6,721 | 7,115 | 8,244 | 9,447 | 10,644 | 11,804 | 12,637 |
| Space research and technology..... | 1,685 | 1,621 | 1,557 | 1,591 | 1,512 | 1,550 | 1,760 | 2,075 |
| Energy ¹ | 1,182 | 1,263 | 33 | 34 | 34 | 36 | 61 | 50 |
| General science ¹ | 2,662 | 2,700 | 3,985 | 4,262 | 4,417 | 4,743 | 4,830 | 4,965 |
| Natural resources and environment..... | 147 | 150 | 141 | 136 | 137 | 197 | 197 | 183 |
| Transportation..... | 456 | 412 | 398 | 342 | 507 | 16 | 12 | 22 |
| Agriculture..... | 547 | 537 | 552 | 575 | 609 | 685 | 723 | 730 |
| Education, training, employment, and social services..... | 140 | 139 | 129 | 95 | 100 | 102 | 103 | 103 |
| International affairs..... | 2 | 2 | 1 | 0 | 39 | 46 | 47 | 34 |
| Veterans benefits and services ² | 13 | 14 | 23 | 251 | 249 | 264 | 294 | 309 |
| Commerce and housing credit..... | 37 | 33 | 34 | 39 | 36 | 46 | 47 | 64 |

See explanatory notes and SOURCES at end of table

Table 26d. Federal budget authority for basic research, by budget function: fiscal years 1996–03

Page 2 of 2

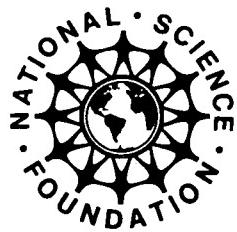
| Budget function | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 preliminary | 2003 proposed |
|---|------|------|------|------|------|------|---------------------|------------------|
| [In millions of dollars] | | | | | | | | |
| Community and regional development..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Administration of justice..... | 12 | 13 | 15 | 17 | 19 | 25 | 24 | 22 |
| Income security..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| General government..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

¹ Beginning in FY 1998, a number of Department of Energy programs were reclassified from energy (270) to general science (251).

² The Department of Veterans Affairs (VA) submission to Office of Management, MAX Schedule C included both VA's medical care and research accounts. Also, prior to 1999, many of the VA R&D costs were counted as R&D facilities and therefore were not included in this table. Starting in 1999, the costs were shifted from R&D facilities to conduct of R&D due to a reclassification within R&D.

NOTES: Data for 1996–2001 are actual budget authority. Data for 2002 are preliminary estimates, and data for 2003 are proposed based on the fiscal year 2003 budget. Because of rounding, components may not add to totals. GDP implicit price deflators used to convert current dollars to constant 1996 dollars.

SOURCES: Agencies' submissions to Office of Management and Budget, MAX Schedule C; agency budget justification documents; and supplemental data obtained from agencies' budget offices.



The National Science Foundation promotes and advances scientific progress in the United States by competitively awarding grants for research and education in the sciences, mathematics and engineering.

To get the latest information about program deadlines, to download copies of NSF publications, and to access abstracts of awards, visit the NSF Web site at:

<http://www.nsf.gov>

Location: 4201 Wilson Blvd.
Arlington, VA 22230

For General Information (NSF Information Center): (703) 292-1111

TDD (for the hearing-impaired): (703) 292-5090

To Order Publications or Forms:

Send an e-mail to: paperpubs@nsf.gov

or telephone: (301) 947-2722

To Locate NSF Employees: (703) 292-8183

The Foundation provides awards for research and education in the sciences and engineering. The awardee is wholly responsible for the conduct of such research and preparation of the results for publication. The Foundation, therefore, does not assume responsibility for the research findings or their interpretation.

The Foundation welcomes proposals from all qualified scientists and engineers and strongly encourages women, minorities, and persons with disabilities to compete fully in any of the research and education related programs described here. In accordance with Federal statutes, regulations, and NSF policies, no person on grounds of race, color, age, sex, national origin, or disability shall be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving financial assistance from the National Science Foundation.

Facilitation Awards for Scientists and Engineers with Disabilities (FASED) provide funding for special assistance or equipment to enable persons with disabilities (investigators and other staff, including student research assistants) to work on NSF projects. See the program announcement or contact the program coordinator at 703-292-8636.

The National Science Foundation has TDD (Telephonic Device for the Deaf) capability, which enables individuals with hearing impairment to communicate with the Foundation about NSF programs, employment, or general information. To access NSF TDD dial 703-292-5090; for FIRS, 1-800-877-8339.



NATIONAL SCIENCE FOUNDATION

ARLINGTON, VA 22230

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE \$300

RETURN THIS COVER SHEET TO ROOM P35 IF YOU
DO NOT WISH TO RECEIVE THIS MATERIAL , OR IF
CHANGE OF ADDRESS IS NEEDED , INDICATE
CHANGE INCLUDING ZIP CODE ON THE LABEL (DO
NOT REMOVE LABEL).

PRESORTED STANDARD
POSTAGE & FEES PAID
National Science Foundation
Permit No. G-69

Federal R&D Funding by Budget Function: Fiscal Years 2001-03

*****MIXED ADC 208
S3 P2

NIQUI BECKRUM
DATABASE COORDINATOR
ERIC / CSMEE
#200
1929 KENNY RD
COLUMBUS OH 43210-1015

BEST COPY AVAILABLE



*U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)*

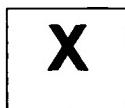


NOTICE

Reproduction Basis



This document is covered by a signed "Reproduction Release (Blanket)" form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.



This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").